

# Receiving Report

Date: 14/4/11

Supplier: BL

Packing Slip: Yes  No   
 Invoice: Yes  No   
 Receipt: Cash  Cr   
 New Supplier Yes  No

Batch No: M128818

Dart P/O: 2374

Release Note Attached: Yes  No  N/A   
 Waybill Attached: Yes  No  N/A   
 Shipment Complete: Yes  No  N/A   
 QC18 Inspection  N/A   
 Work Order  N/A

## Discrepancies

Part Number	Description	Quantity Ordered	Quantity Rec'd	Quantity Short	Quantity Inspected	Quantity Rejected	Comment / NCR Number

Initials of Receiver   QC12  

Production/Admin:

Date \_\_\_\_\_

Location \_\_\_\_\_

Received/Costing \_\_\_\_\_

Initial \_\_\_\_\_



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO23714**

Purchase Order Date 4/9/2014  
PO Print Date 4/10/2014

Page Number 1 of 6

**Order From :** VU-BEA001  
B/E AEROSPACE INC  
88289 EXPEDITE WAY  
CHICAGO, IL 33172  
USA

**Ship To :** DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name	Buyer	Michael Gregoire
Vendor Phone	Customer POID	
	Customer Tax #	10127-2607
<b>Ship To Contact</b>	Terms	Net 30
<b>Ship To Phone</b>	Currency	USD
<b>Ship Via:</b> FedEx PI collect	FOB	FCA - (Free Carrier)
<b>Ship Acct:</b>		

4/12/2014

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	212-12	Receptacles	4/16/2014 Yes	FN	175.00 Each	\$2.50	\$437.50
	396		4/16/2014				
2	2600-LW	Camlock Retaining Washer	4/16/2014 Yes	FN	175.00 Each	\$0.20	\$35.00
	376		4/16/2014				
3	AN310-4	Nut	4/16/2014 Yes	FN	75.00 Each	\$0.65	\$48.75
	372		4/16/2014				

**Note:**



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613-632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO23714**

Purchase Order Date 4/9/2014  
PO Print Date 4/10/2014

Page Number 3 of 6

Order From : VU-BEA001

B/E AEROSPACE INC  
88289 EXPEDITE WAY  
CHICAGO, IL 33172  
USA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

1128818

Contact Name	Buyer	Michael Gregoire
Vendor Phone	Customer POID	
	Customer Tax #	10127-2607
Ship To Contact	Terms	Net 30
Ship To Phone	Currency	USD
Ship Via:	FOB	FCA - (Free Carrier)
Ship Acct:		

7	AN4C20A	Bolt	4/16/2014	50.00	✓	\$1.20	\$60.00
			Yes	Each			
			4/16/2014				

358

					<b>Line Total:</b>	<b>\$60.00</b>
--	--	--	--	--	--------------------	----------------

8	CCR264SS3-3	Cherry Rivet	4/16/2014 FN	200.00	✓	\$0.15	\$30.00
			Yes	Each			
			4/16/2014				

327

					<b>Line Total:</b>	<b>\$30.00</b>
--	--	--	--	--	--------------------	----------------

9	CR3213-4-05	RIVET	4/16/2014 FN	200.00	✓	\$0.35	\$70.00
			Yes	Each			
			4/16/2014				

329

					<b>Line Total:</b>	<b>\$70.00</b>
--	--	--	--	--	--------------------	----------------

10	MS20365-428	Nut	4/16/2014 FN	100.00	✓	\$0.15	\$15.00
			Yes	Each			
			4/16/2014				

Alt#MS21444N4

Note:



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## PURCHASE ORDER

**Purchase Order ID PO23714**

**Purchase Order Date** 4/9/2014

PO Print Date 4/10/2014

Page Number 2 of 6

**Order From :** VU-BEA001

B/E AEROSPACE INC  
88289 EXPEDITE WAY  
CHICAGO, IL 33172  
USA

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**  
**Vendor Phone** 305-925-2600  
**Ship To Contact**  
**Ship To Phone**  
**Ship Via:** FedEx PI coll  
**Ship Acct:**

<b>Buyer</b>	Michael Gregoire
<b>Customer PO ID</b>	
<b>Customer Tax #</b>	10127-2607
<b>Terms</b>	Net 30
<b>Currency</b>	USD
<b>FOB</b>	FCA - (Free Carrier)

						<b>Line Total:</b>	\$48.75
4	AN310C3	NUT	4/16/2014	25.00	✓	\$0.85	\$21.25
			Yes	Each			
			4/16/2014				
						<b>Line Total:</b>	\$21.25
5	AN4-42A	Bolt	4/16/2014	100.00	✓	\$1.15	\$115.00
			Yes	Each			
			4/16/2014				
						<b>Line Total:</b>	\$115.00
6	AN4C13A	BOLT	4/16/2014	200.00	✓	\$0.75	\$150.00
			Yes	Each			
			4/16/2014				
						<b>Line Total:</b>	\$150.00

Note:



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Page Number 4 of 6

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USA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name  
Vendor Phone 305-925-2600  
  
Ship To Contact  
Ship To Phone  
Ship Via: FedEx PI collect  
Ship Acct:

Buyer Michael Gregoire  
Customer POID  
Customer Tax # 10127-2607  
Terms Net 30  
Currency USD  
FOB FCA - (Free Carrier)

*M128818*

						Line Total:	\$15.00
11	MS20615-4M18	Rivet	4/16/2014	125.00	✓	\$0.45	\$56.25
			Yes	Each			
			4/16/2014				
						Line Total:	\$56.25
12	MS21043-4	Nut	4/16/2014 FN	1,500.00	✓	\$0.55	\$825.00
			Yes	Each			
			4/16/2014				
						Line Total:	\$825.00
13	MS21069L3	ANCHOR NUT	4/16/2014 FN	200.00	✓	\$0.35	\$70.00
			Yes	Each			
			4/16/2014				

Note:



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## PURCHASE ORDER

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Purchase Order Date 4/9/2014  
PO Print Date 4/10/2014

Page Number 5 of 6

Order From : VU-BEA001

B/E AEROSPACE INC  
88289 EXPEDITE WAY  
CHICAGO, IL 33172  
USA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name  
Vendor Phone 305-925-2600  
  
Ship To Contact  
Ship To Phone  
Ship Via: FedEx PI collect  
Ship Acct:

Buyer Michael Gregoire  
Customer POID  
Customer Tax # 10127-2607  
Terms Net 30  
Currency USD  
FOB FCA - (Free Carrier)

14 MS24693-C48 SCREW 4/16/2014 250.00 ✓ \$0.05 \$12.50  
3~0 Yes 4/16/2014

Line Total: \$12.50

15 NAS1149D0663J Washer 4/16/2014 FN 1,000.00 ✓ \$0.04 \$40.00  
510A Yes 4/16/2014

Line Total: \$40.00

16 71401-45 4/16/2014 0.00 \$0.00 \$0.00  
No 4/16/2014

Procurement Quality Clauses  
A005 RIGHT OF ENTRY  
A012 CHEMICAL AND PHYSICAL TEST REPORTS  
A016 PERSONNEL QUALIFICATION  
A026 CERTIFICATION OF MATERIAL CONFORMANCE  
A032 PUBLIC LAW 101-592, FASTENER QUALITY ACT  
A033 STATEMENT OF CONFORMITY/TEST RECORDS  
FOR NAS, AN AND MS FASTENERS  
A040 NOTIFICATION OF QUALITY ESCAPE  
A041 QUALITY MANAGEMENT SYSTEM  
A042 DART NOTIFICATION BY SUPPLIER  
A043 RETENTION OF QUALITY DOCUMENTS

Note:



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Page Number 6 of 6

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Ship To : DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name		Buyer	Michael Gregoire
Vendor Phone	305-925-2600	Customer POID	
Ship To Contact		Customer Tax #	10127-2607
Ship To Phone		Terms	Net 30
Ship Via:	FedEx PI collect	Currency	USD
Ship Acct:		FOB	FCA - (Free Carrier)

Line Total: \$0.00

PO Total: \$1,986.25

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Change Nbr: 2

Change Date: 4/10/2014



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
[www.beconsumables.com](http://www.beconsumables.com)

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
1	175	EA	212-12		1584197	ALCOA TORRANCE/CAMLO	71286		

  
\_\_\_\_\_  
Jason Lewis  
Vice President of Quality

04/10/14

**Alcoa  
Fastening  
Systems**



Shipper ID: 864279

Page: 1

Sold To: 5574  
B/E AEROSPACE, INC.  
ATTN: ACCOUNTS PAYABLE  
P.O. BOX 025263  
MIAMI, FL 33102-5263  
USA

Ship To: 55740014  
B/E AEROSPACE CONSUMABLES  
9835 NW 14TH ST  
MIAMI, FL 33172  
USA

Shipped From:  
AFS - TORRANCE  
AEROSPACE PRODUCTS  
TORRANCE OPERATIONS  
3000 WEST LOMITA BLVD.  
TORRANCE, CA 90505  
TEL: 310-530-2220  
USA

Ship Date: 11/30/13  
Print Date: 11/30/13  
Time: 07:43:06

Ship Via: FED EX  
INCO Terms: FCA AFS TORRANCE

Container/Weight:  
Carrier Shipment Ref: 864279  
Bill Lading #:

SHIP VIA : FED EX

BUYER: EDWARD PANETTA

PHONE:

MATERIAL COMPLIES WITH DFARS 252.225-7009 PREFERENCE FOR DOMESTIC SPECIALTY METALS" WITH ITS ALTERNATE 1  
\*\*\*SHIP VIA FEDX GRD COLLECT ACCT# 0831-0149-01 IF 150 LBS OR MORE SHIP FED EX FREIGHT ECONOMY COLLECT ACCT# 018757 \*\*\*  
DO NOT SHIP BY ANY OTHER WITHOUT PROPER WRITTEN AUTHORIZATION.

ALLOWABLE SHIPPING TOLERANCE = +0%-0 %.

\*\* BAR CODE PER QAP 33 CLAUSE P REQUIRED \*\*\*

\*\* QAP 33.0 REV H CLAUSES: A,B,C,E,H,P,U,V. CLAUSE A.5 GENERAL TERMS APPLIES.

REV: B

RELEASE NUMBER: 9G2DOPEM11

Sales Order: F466665 Order Date: 05/14/13 Purchase Order: 0PEM11

Remarks: ADILENE

Ln	Item Number	Description	Rev	Qty Shipped	Qty B/O UM
1	BACR11AW2	RECEPTACLE (212-12)		25000.0	0.0 EA
	TSO C148				
	Cust Line #:	1			
	Customer Item:	BACR11AW2			
	Required Date:	01/13/14	Promised Date:	01/20/14	
	MFG C OF C CHEM & PHYS TEST REPORT REQ				
	PLEASE DUAL CERT PART NUMBER BACR11AW2 TO PART NUMBERS: HS4430-1,				
	NSA55134-302, BACR11Y2				
	Loc/Lot:	S5DD17	1584198	10,010.00	COO: CN

ALCOA GLOBAL FASTENERS, INC.

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. ANY CLAIM BASED ON AN ALLEGED DISCREPANCY (IN AMOUNT, QUANTITY, ETC.), BETWEEN THE GOODS ACTUALLY SHIPPED AND / OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NO LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON.

CUSTOMER'S COPY

Alcoa  
Fastening  
Systems



Shipper ID: 864279

Page: 2

Sold To: 5574  
B/E AEROSPACE, INC.  
ATTN: ACCOUNTS PAYABLE  
P.O. BOX 025263  
MIAMI, FL 33102-5263  
USA

Ship To: 55740014  
B/E AEROSPACE CONSUMABLES  
9835 NW 14TH ST  
MIAMI, FL 33172  
USA

Shipped From:  
AFS - TORRANCE  
AEROSPACE PRODUCTS  
TORRANCE OPERATIONS  
3000 WEST LOMITA BLVD.  
TORRANCE, CA 90505  
TEL: 310-530-2220  
USA

Ship Date: 11/30/13  
Print Date: 11/30/13  
Time: 07:43:06

Ship Via: FED EX  
INCO Terms: FCA AFS TORRANCE

Container/Weight:  
Carrier Shipment Ref: 864279  
Bill Lading #:

Ln Item Number      Lot/Serial

1 BACR11AW2

Cont. \*\*\*  
Loc/Lot: S5FLR 1584197  
Loc/Lot: S5F01C 1624803

HTS CODE: 7415290000

SCHEDULE-B NUMBER: 7415290000

ECCN: 9A991

9 912.00  
5 078.00

000: CN  
000: CN

The export classification appears above. You are responsible for all  
related export license requirements.

\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\* Total Qty Shipped:

25,000 \*\*\*\*\*

**PACKING**  
**SLIP**

ALCOA GLOBAL FASTENERS, INC.

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CUSTOMER'S COPY



Alcoa  
Fastening  
Systems



Shipper ID: 864279

Page: 1

Sold To: 5574  
B/E AEROSPACE, INC.  
ATTN: ACCOUNTS PAYABLE  
P.O. BOX 025263  
MIAMI, FL 33102-5263  
USA

Ship To: 55740014  
B/E AEROSPACE CONSUMABLES  
9835 NW 14TH ST  
MIAMI, FL 33172  
USA

Shipped From:  
AFS -TORRANCE  
AEROSPACE PRODUCTS  
TORRANCE OPERATIONS  
3000 WEST LOMITA BLVD.  
TORRANCE, CA 90505  
TEL: 310-530-2220  
USA

Ship Date: 11/30/13  
Print Date: 11/30/13  
Time: 07:43:07

Ship Via: FED EX  
INCO Terms: FCA AFS TORRANCE

Container/Weight:  
Carrier Shipment Ref: 864279  
Bill Lading #:

SHIP VIA : FED EX

BUYER: EDWARD PANETTA

PHONE:

MATERIAL COMPLIES WITH DFARS 252.225-7009 PREFERENCE FOR DOMESTIC SPECIALTY METALS" WITH ITS ALTERNATE 1.

\*\*\*SHIP VIA FEDX GRD COLLECT ACCT# 0381-0149-0 IF 150 LBS OR MORE SHIP FED EX FREIGHT ECONOMY COLLECT ACCT# 018757 \*\*\*  
DO NOT SHIP BY ANY OTHER WITHOUT PROPER WRITTEN AUTHORIZATION.  
ALLOWABLE SHIPPING TOLERANCE = +0% -0%.

\*\* BAR CODE PER QAP 33 CLAUSE P REQUIRED \*\*\*

\*\* QAP 33.0 REV H CLAUSES: A,B,C,E,H,P,U,V. CLAUSE A.3 GENERAL TERMS APPLIES.

REV: B

RELEASE NUMBER: 9G2DOPEM11

Sales Order: F466665 Order Date: 05/14/13 Purchase Order: 0PEM11

Remarks: ADILENE

Ln Item Number	Description	Rev	Qty Shipped	Qty B/O	UM
1 BACR11AW2	RECEPTACLE (212-12)		25000.0	0.0	EA
TSO C148					
Cust Line #:	1				
Customer Item:	BACR11AW2				
Required Date:	01/13/14	Promised Date:	01/20/14		
MPG C OF C-CHEM & PHYS TEST REPORT REQ					
PLEASE DUAL CERT PART NUMBER BACR11AW2 TO PART NUMBERS: HS4430-1,					
NSA55134-302, BACR11Y2					
Loc/Lot:	S5DD17	1584198	10,010.00	COO:	CN

CERTIFICATE OF CONFORMANCE

This is to certify that all items noted below were produced in conformance with the contract, drawing specifications, and other applicable documents. All required process certifications, chemicals and physical test reports are on file subject to examination. This document must not be reproduced except in full and relates only to the items tested.

Director of Quality Assurance  
Torrance Operations

ALCOA GLOBAL FASTENERS, INC.

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. ANY CLAIM BASED ON AN ALLEGED DISCREPANCY (IN AMOUNT, QUANTITY, ETC.), BETWEEN THE GOODS ACTUALLY SHIPPED AND / OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NO LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON.

CUSTOMER'S COPY

Alcoa  
Fastening  
Systems



Shipper ID: 864279

Page: 2

Sold To: 5574  
B/E AEROSPACE, INC.  
ATTN: ACCOUNTS PAYABLE  
P.O. BOX 025263  
MIAMI, FL 33102-5263  
USA

Ship To: 55740014  
B/E AEROSPACE CONSUMABLES  
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MIAMI, FL 33172  
USA

Shipped From:  
AFS -TORRANCE  
AEROSPACE PRODUCTS  
TORRANCE OPERATIONS  
3000 WEST LOMITA BLVD.  
TORRANCE, CA 90505  
TEL: 310-530-2220  
USA

Ship Via: FED EX  
INCO Terms: FCA AFS TORRANCE

Container/Weight:  
Carrier Shipment Ref: 864279  
Bill Lading #:

Ship Date: 11/30/13  
Print Date: 11/30/13  
Time: 07:43:07

Ln	Item Number	Lot/Serial
1	BACR11AW2	*** Cont ***
Loc/Lot:	S5FLR	1584197
Loc/Lot:	S5101C	1624303
HTS CODE:	7415290000	
SCHEDULE B NUMBER:	7415290000	ECCN: 9A991

The export classification appears above. You are responsible for all related export license requirements.

**CERTIFICATION**

\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\* Total Qty Shipped: 25,000 \*\*\*\*\*

**CERTIFICATE OF CONFORMANCE**  
This is to certify that all items noted below were produced in conformance with the contract, drawing specifications, and other applicable documents. All required process certifications, chemicals and physical test reports are on file subject to examination. This document must not be reproduced except in full and relates only to the items tested.

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Torrance Operations

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CUSTOMER'S COPY

**Alcoa Fastening Systems**  
Torrance Operations

**QUARTER TURN PRODUCT CERTIFICATION**

The parts contained in this shipment have been manufactured and inspected in accordance with applicable drawings and specifications.

CUSTOMER NAME: B/E AEROSPACE

PURCHASE ORDER NO.: 0PEM11

DATE: 12/03/13

BOEING PART NUMBER: BACR11AW2

CAMLOC PART NO: 212-12

PART DESCRIPTION: RECEPTACLE

PROCUREMENT SPEC. NO: BPS-I-168 REV. B DATED 19 JAN 01

LOT SIZE: 10,250

LOT NO.: 1584197

QTY. SHIPPED: 9,912

SHIPPER NO.: 864279

COMPONENT:	MATERIAL PRODUCER:	MATERIAL TYPE:	HEAT #:
RECEPTACLE	Rapport Metallurgique	Silicon Bronze	Four 28

**MECHANICAL PROPERTY RESULTS:**

ACCEPT:

REJECT:

ACCEPTANCE DATA:

VISUAL AND DIMENSIONAL REQUIREMENTS: 038

IN-PROCESS WORK ORDER

HARDNESS AND TORQUE FOR STUDS

TEST DATA SHEET

MINIMUM STOP STRENGTH RECEPTACLES: 038

TEST DATA SHEET

DEVIATIONS:

**FINAL SHIPPING AUTHORIZATION:**

DATE:

INSP. STAMP:

Din Perkins  
QUALITY ASSURANCE

12/3/13

AFS Y13 Q38

TWO COPIES WITH EACH SHIPMENT

FORM 082195-2

The test report shall not be reproduced except in full, without the written approval of the laboratory; and the recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.





Aerospace Products  
Torrance Operations

3000 W Lomita Blvd  
Torrance, CA 90505 USA  
Tel: 1 310 784 2600

## CERTIFICATE OF CONFORMANCE

CAMLOC CAGE CODE...71286

Customer :	<b>B/E AEROSPACE</b>
Part Number :	<b>212-12</b>
Customer P/N :	<b>HS4430-1 / NSA55134-302 / BACR11Y2</b>
P.O. Number :	<b>0PEM11</b>
Lot Number :	<b>1584197</b>
Quantity :	<b>9,912</b>

This certifies that the above part number was tested in accordance with the quality conformance test proposal for Quarter Turn Panel Fasteners agreed upon by Boeing Corporation and Camloc Products. A sample from the lot was selected at random per MIL-STD-105, Inspection Level S-2, with an AQL of 1.0 percent. The test results for locking torque and unlocking torque are in conformance with Camloc Products design specifications. Tests for stud hardness are in conformance with paragraph 3.5.11 of MIL-F-5591 for alloy steel. Hardness for stud materials other than alloy steels are in conformance with table II of MIL-F-5591, which are in conformance with Camloc Products design specification. Tests for stud materials other than ally steel are in conformance with Camloc Products design specifications. These reports are on file and available for review.

John Perkins  
Quality Assurance

The test report shall not be reproduced except in full, without the written approval of the laboratory; and the recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Alcoa Global Fasteners, Inc.

ATS • Camloc • Delron • Eagle • Eurosim • Huck • Kaynar • K-FAST • Mairoll • Mecaaro • Microdot • RAM • Rosan • Screw-Corp • Simmonds • SNEP • Technico • Tridair • Voi-Shan



## LE LAITON INJECTÉ

FAVI S.A.

S.A. au CAPITAL de 960 000 €

14 rue Louis Denaux  
80400 HALLENCOURT FRANCE

Tél. : 03 22 20 20 50

Fax : 03 22 28 60 83

Tel. International : 33 3 22 28 20 50 / Fax : 33 3 22 20 60 83

e-mail : [levi@levi.com](mailto:levi@levi.com)

<http://www.levi.com>

RCS d'AMIENS 778151563

DQ 7342

Désignation :	Réceptacle mv 212-12	N°:	18 217	Client/Customer/Kunde
Part/beschreibung n° :	MV 212-12/A	Indice:	4	SAARMETALL
Lot de /batch of/Menge :	Four 28	N° lancement:	12040972 (semaine 35)	
Alliage/Alloy/Legierung :	CU ZN 16 SI 4 - C / (cu zn 12 si 4) / ASTM B176			

### COMPOSITION CHIMIQUE / Chemical analysis/Chemische Analyse :

#### Analyses type %

Standard analysis/Standard Analyse

	Maxi	Mini
CU	83,00	78,00
Pb	0,80	/
Sn	0,30	/
Fe	0,60	/
Ni	1,00	/
Al	0,10	/
Mn	0,20	/
Si	5,00	3,00
Zn	Solde	Solde

#### Analyses sur bain %

Melt analysis/Schmelzofenanalyse

CU	81,10
Pb	0,080
Sn	0,090
Fe	0,080
Ni	0,090
Al	0,010
Mn	0,000
Si	3,89
Zn	Solde

#### Observations /Remarks/Bemerkungen :

250 000 pièces envoiées le 17/09/2012.

RESPONSABLE QUALITE		RESPONSABLE METALLURGIE	
Date : 17 septembre 2012	<i>J. BESSA</i>	Date : 17 septembre 2012	<i>P.O.</i>
Visa	<i>J. BESSA</i>	Visa	<i>Y. HAUTERBOUT</i>
Diffusion Interne	Commercial	Qualité	B.E. Fonderie

SIREN: 778151563

APR 24642

01 FVA FR 30 700 101 562

*Receptacle 1584197*

25/10/2013  
JAN 15 2013

Alcoa  
Fastening  
Systems



3000 W Lomita Blvd  
Torrance, California 90505 USA  
Tel: 1 310 530 2220  
Fax: 1 310 784 4320

# Processing Certification

# 377816

Date

04/26/2013

Lot Number

1584197

Lot Quantity

10250

Part Number

BACR11AW2

Type of Process

CADMIUM PLATE  
TYPE II, CLASS 2

I.B.M. Number

412390

Specification

AMS-QQ-P-416C

Material Type

S.BRONZE

Mony Barkol

Director of Quality Assurance



APR 26 2013

Lab Tech Stamp / Date



QC-195A



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
10	100	EA	MS21044N4	MS20365-428	07	GREER STOP NUT / SPS	27687		

  
Jason Lewis  
Vice President of Quality

04/10/14





Greer Stop Nut, Inc.  
481 McNally Drive  
Nashville, TN 37211

Phone: 615-832-8375  
Fax: 615-331-0065  
E-mail: greer@spstech.com

## CERTIFICATE OF CONFORMANCE

Date of Certification: November 14, 2008

Sold To: Honeywell - Hardware Product Group  
Alliance Gateway 54  
700 Henrietta Creek Road  
Roanoke, TX 76262

Purchase Order No: 816149

Customer Part No: MS21044N4 Rev. H & NASM21044 Rev. NEW Item No: 002

Greer Part No: F42NE-0428 / 0501920 Nomenclature: Nut, Self-Locking, Hexagon, Regular Height, 250° F

Lot No/Serial No: 07 Qty. Manufactured: 63,508 Qty. Shipped: 50,000

Manufacturing Date: 11-14-08

Material: 1137 Material Specification: AMS 5024 G Material Supplier: Nelsen Steel Company

Mill Heat No. 898105 Greer Control No: GCJ514T

Material Marking: n/a

Nylon Conforms to ASTM D4066-94B, 98A, 99, 01A Group 1 Class 1

Procurement Specification: MIL-N-25027G Am 1 & E Am 5, MIL-DTL-25027H Am 1 & NASM25027 Thread Spec: MIL-S-8879 Rev C Am 1

Surface Finish: Cadmium & Yellow Chromate Surface Finish Specification: QQ-P-418F Type II Class 3 Am. 3

Axial Tensile Strength: 4,580 lbs. Testing Exceeded: 4,580 lbs. Specification: MS21044N4 Rev. H & NASM21044 Rev. NEW

Sample Size: 15

Sample Size: 15

Locking Torque Specification: MIL-N-25027G Am. 1 & E Am. 5, MIL-DTL-25027H Am. 1 & NASM25027

1<sup>st</sup> Cycle Max. Locking Requirement: 30.0 in. lbs.

15<sup>th</sup> Cycle Min. Breakaway Requirement: 3.5 in. lbs.

Tested Range of Samples:

1<sup>st</sup> Cycle Max. Locking: 8-10 in. lbs.

1<sup>st</sup> Cycle Min. Bkwy: 10-14 in. lbs.

7<sup>th</sup> Cycle Max. Locking: 6-11 in. lbs.

7<sup>th</sup> Cycle Min. Bkwy: 9-12 in. lbs.

15<sup>th</sup> Cycle Max. Locking: 5-12 in. lbs.

15<sup>th</sup> Cycle Min. Bkwy: 7-12 in. lbs.

Non-Destructive Testing: Magnetic Particle Inspection Specification: ASTM E-1444-01, MIL-STD-271F1

Acceptance Criteria: MIL-S-1222H Int. Am.3, MIL-N-25027G Am. 1 & E Am. 5, MIL-DTL-25027H Am. 1 & NASM25027 Sample Size: 32

Magnetic Particle Inspection is in accordance with GS-002 Rev. 7 Dated 11-7-90 EB VPAR # B4203-02

Page 1 of 2



Hardness Requirement: N/A Specification: N/A Hardness Results: N/A Sample Size: N/A

Conforms Dimensionally: MS21044N4 Rev. H & NASM21044 Rev. NEW Sample Size: 32

The products identified on this certificate have been manufactured, tested and inspected in accordance with, and unless noted above, conforms in all respects to the applicable drawings, specifications and/or standards. Complete reports of physical and chemical tests are on file for on-site examination. If no specified customer quality level is required, goods conform to seller's quality level. Reproduction except in full is strictly prohibited without written approval of Greer Stop Nut. All damages exceeding price are excluded. Mercury free clause: We certify that no possibility exists for mercury contamination to occur during manufacture, assembly or testing of parts on this contract. This document relates only to the items tested. Parts were manufactured in the United States of America. Sample plans are carried out to current standard/specification revision.

Product is compliant to DFARS 252.225-7014 ALT 1.

G and Green Nylon are Trademarks of Greer Stop Nut, Inc.

*Janet M. Calvin  
(es)*

Janet M. Calvin  
Quality Assurance Manager





# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
[www.beconsumables.com](http://www.beconsumables.com)

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
2	175	EA	2600-LW		1613528	ALCOA TORRANCE/CAMLO	71286		

  
\_\_\_\_\_  
Jason Lewis  
Vice President of Quality

04/10/14



Shipper ID: 841354

Page: 1

Sold To: 5574  
B/E AEROSPACE, INC.  
ATTN: ACCOUNTS PAYABLE  
P.O. BOX 025263  
MIAMI, FL 33102-5263  
USA

Ship To: 55740014  
B/E AEROSPACE CONSUMABLES  
9835 NW 14TH ST  
MIAMI, FL 33172  
USA

Shipped From:  
AFS -TORRANCE  
AEROSPACE PRODUCTS  
TORRANCE OPERATIONS  
3000 WEST LOMITA BLVD.  
TORRANCE, CA 90505  
TEL: 310-530-2220  
USA

Ship Date: 04/30/13  
Print Date: 04/30/13  
Time: 09:25:23

Ship Via: FED EX GRD  
INCO Terms: FCA TORRANCE

Container/Weight:  
Carrier Shipment Ref: 841354  
Bill Lading #:

SHIP VIA :FED EX G

BUYER: OLGA

PHONE:

MATERIAL COMPLIES WITH DFARS 252.225-7009 PREFERENCE FOR DOMESTIC SPECIALTY METALS" WITH ITS ALTERNATE 1  
\*\*\*SHIP VIA FEDX GRD COLLECT ACCT# 0311-0149-0 IF 150 LBS OR MORE SHIP FED EX FREIGHT ECONOMY COLLECT ACCT# 018751  
DO NOT SHIP BY ANY OTHER WITHOUT PROPER WRITTEN AUTHORIZATION.

ALLOWABLE SHIPPING TOLERANCE = +0%-0%.

\*\* BAR CODE PER QAP 33 CLAUSE P REQUIRED \*\*

\*\* QAP 33.0 REV F CLAUSES: A,A.1,B,C,E,H,P,U,V. CLAUSE A.3 GENERAL TERMS APPLIES.

Sales Order: F430267 Order Date: 04/10/13 Purchase Order: 0HEE59

Remarks: VITA

Ln Item Number	Description	Rev	Qty Shipped	Qty B/O UM
3 BACW10X4 TSO C148 Cust Line #: 2 Customer Item: BACW10X4 Required Date: 04/01/13 Promised Date: 04/10/13 C OF C DUAL CERT TO HS4432-2 &3D0050-3 *** Loc/Lot: S5FLR 1613528 HTS CODE: 7318220000 SCHEUDLE-B NUMBER: 7318220000 ECCN: 9A991	LOCKWASHER (2600-LW)	63729.0	25335.0	EA
The export classification appears above. You are responsible for all				

ALCOA GLOBAL FASTENERS, INC.

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. ANY CLAIM BASED ON AN ALLEGED DESCREPANCY (IN AMOUNT, QUANTITY, ETC.), BETWEEN THE GOODS ACTUALLY SHIPPED AND / OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NO LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON.

CUSTOMER'S COPY

**Alcoa**  
**Fastening**  
**Systems**



ALCOA



Shipper ID: 841354

Page: 2

Sold To: 5574  
B/E AEROSPACE, INC.  
ATTN: ACCOUNTS PAYABLE  
P.O. BOX 025263  
MIAMI, FL 33102-5263  
USA

Ship To: 55740014  
B/E AEROSPACE CONSUMABLES  
9835 NW 14TH ST  
MIAMI, FL 33172  
USA

Shipped From:  
AFS -TORRANCE  
AEROSPACE PRODUCTS  
TORRANCE OPERATIONS  
3000 WEST LOMITA BLVD.  
TORRANCE, CA 90505  
TEL: 310-530-2220  
USA

Ship Date: 04/30/13  
Print Date: 04/30/13  
Time: 09:25:23

Ship Via: FED EX GRD  
INCO Terms: FCA TORRANCE

Container/Weight:  
Carrier Shipment Ref: 841354  
Bill Lading #:

related export license requirements.

\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\* Total Qty Shipped 63  
**PACKING**  
**SLIP**

ALCOA GLOBAL FASTENERS, INC.

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. ANY CLAIM BASED ON AN ALLEGED DESCRENACY (IN AMOUNT, QUANTITY, ETC.), BETWEEN THE GOODS ACTUALLY SHIPPED AND / OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NO LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON.

**CUSTOMER'S COPY**

Alcoa  
Fastening  
Systems



Shipper ID: 841354  
Page: 1

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MIAMI, FL 33102-5263  
USA

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Ship Via: FED EX GRD  
INCO Terms: FCA TORRANCE

Container/Weight:  
Carrier Shipment Ref: 841354  
Bill Lading #:

SHIP VIA :FED EX G

BUYER: OLGA

PHONE:

MATERIAL COMPLIES WITH DFARS 252.225-7009 PREFERENCE FOR DOMESTIC SPECIALTY  
METALS" WITH ITS ALTERNATE 1.

\*\*\*SHIP VIA FED EX GRD COLLECT ACCT# 0381-0149-0 IF 150 LBS OR MORE SHIP FED  
EX FREIGHT ECONOMY COLLECT ACCT# 038759 \*\*\*  
DO NOT SHIP BY ANY OTHER WITHOUT PROPER WRITTEN AUTHORIZATION.  
ALLOWABLE SHIPPING TOLERANCE = +0-0.4.

\*\* BAR CODE PER QAP 33 CLAUSE P REQUIRED \*\*\*

\*\* QAP 33.0 REV F CLAUSES: A,A.1,B,C,E,H,P,U,V. CLAUSE A.3 GENERAL TERMS  
APPLIES.

Sales Order: F430267 Order Date: 04/10/12 Purchase Order: 0HEE59

Remarks: VITA

Ln Item Number	Description	Rev	Qty Shipped	Qty B/O UM
3 BACW10X4 TSO C148 Cust Line #: 2 Customer Item: BACW10X4 Required Date: 04/01/13 Promised Date: 04/10/13 C OF C DUAL CERT TO HS4432-2 &3D0050-3 *** Loc/Lot: S5FLR 1613528 HTS CODE: 7318220000 SCHEDULE-B NUMBER: 7318220000. ECCN: 9A991		63729.0	25335.0	EA

The export classification appears above. You are responsible for all

CERTIFICATE OF CONFORMANCE

This is to certify that all items noted below were produced in conformance with  
the contract, drawing specifications, and other applicable documents. All  
required process certifications, chemicals and physical test reports are on file  
subject to examination. This document must not be reproduced except in  
full and relates only to the items tested.

Director of Quality Assurance  
Torrance Operations

ALCOA GLOBAL FASTENERS, INC.

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. ANY CLAIM BASED ON AN ALLEGED DISCREPANCY (IN AMOUNT, QUANTITY, ETC.), BETWEEN THE GOODS ACTUALLY SHIPPED AND / OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NO LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON.

CUSTOMER'S COPY

**Alcoa**  
**Fastening**  
**Systems**



Shipper ID: 841354

Page: 2

Sold To: 5574  
B/E AEROSPACE, INC.  
ATTN: ACCOUNTS PAYABLE  
P.O. BOX 025263  
MIAMI, FL 33102-5263  
USA

Ship To: 55740014  
B/E AEROSPACE CONSUMABLES  
9835 NW 14TH ST  
MIAMI, FL 33172  
USA

Shipped From:  
AFS -TORRANCE  
AEROSPACE PRODUCTS  
TORRANCE OPERATIONS  
3000 WEST LOMITA BLVD.  
TORRANCE, CA 90505  
TEL: 310-530-2220  
USA

Ship Date: 04/30/13  
Print Date: 04/30/13  
Time: 09:25:23

Ship Via: FED EX GRD  
INCO Terms: FCA TORRANCE

Container/Weight:  
Carrier Shipment Ref: 841354  
Bill Lading #:

related export license requirements.

\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\* Total Qty Shipped: 63,729 \*\*\*\*\*  
**CERTIFICATION**

**CERTIFICATE OF CONFORMANCE**

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Torrance Operations

ALCOA GLOBAL FASTENERS, INC.

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**CUSTOMER'S COPY**

Alcoa  
Fastening  
Systems



3000 W Lomita Blvd  
Torrance, California 90505 USA  
Tel: 1 310 530 2220  
Fax: 1 310 784 4320

# Processing Certification

# 377807

Date

04/26/2013

Lot Number

1599281

Lot Quantity

61043

Part Number

2600-LW

Type of Process

CADMIUM PLATE  
TYPE II, CLASS 2

I.B.M. Number

415599

Specification

AMS-QQ-P-416C

Material Type

C1075

Mony Barkol

Director of Quality Assurance



APR 26 2013

Lab Tech Stamp / Date



06/12/2012 10:08 FAX

06/12/2012 03:53 5629215884

Transcontinental Metals

0002/0002

PAGE 31/31

L & T PRECISION SLITTING  
14015 GRACEBEE AVE  
NORWALK, CA 90650  
PHONE: 562-921-5954  
FAX: 562-921-6804

Date : 03-09-12

## Material Certification Certification of Conformance

Sold To: Transcontinental Metals Ship To: Same

AFS 272670

2012  
006

Customer P.O. No. 8712  
Size: .015 x 1.812 ✓

L & T P.O. No. 98379  
Type:

JUN 12 2012

Specifications: ASTM-A684/684M-10a

C-1075 Add ✓

Net Weight: 1034#

Heat ID No. NLPP2859 ✓

### CHEMICAL ANALYSIS

C	Mn	P	S	Si	Ni	Cr	Cu	Mo	Resi
.73	.54	.006	.008	.158	.070	.14	.15	.020	
W	V	Sn	Ti	Al	Ca	Zr	Co	N	B
				.001					

### MECHANICAL AND PHYSICAL PROPERTIES

Yield	Tensile	Elong 2%	Hardness	Bend Test
			86-15T	OK ✓

The Material Listed on This Certification Meets All Specifications Indicated

By: *Jay Lefever*  
L & T Quality Control Dept.

Mill Source

Lock Washer 1613588



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

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[www.beconsumables.com](http://www.beconsumables.com)

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

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**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
6	200	EA	AN4C13A		327447	CALIFORNIA SCREW PRO	8Z507		

  
Jason Lewis  
Vice President of Quality

04/09/14

Inv # 04/09/14



CALIFORNIA SCREW PRODUCTS CORPORATION  
14957 GWENCHRIS COURT  
PARAMOUNT, CALIFORNIA 90723-3423  
TEL (562) 633-6626  
FAX (562) 633-2082

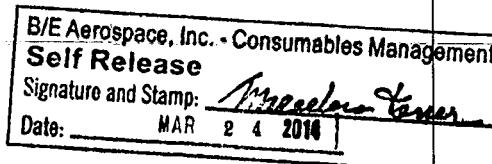
PACKING SLIP

Original : 35230

\*\*\* Parts Manufactured in the USA \*\*\*

Sold To:	Ship To:
003635 B/E AEROSPACE CONSUMABLE MANAGEMENT P.O. BOX 025263 MIAMI, FLA 33102-5263	***** B/E AEROSPACE CONSUMABLE MANAGEMENT 9835 NW 14TH ST. MIAMI, FLA 33172

Customer P.O. No.	Sales Order	Date	Ship Via	Job No.		
OSHL48	53957	03-21-14	FED EX GROUND/WATKIN	327447		
Pos	Item	Ordered	Delivered Qty	Unit	Weight	No. of Cartons
*****						
10	AN4C13A	25000	25000	ea	624	16



**CALIFORNIA SCREW PRODUCTS CORP.**

14957 GWENCHRIS CT. PARAMOUNT, CA 90723

P: 562-633-6626

F: 562-529-7108

CAGE NUMBER : 8Z507

Airbus UK Approval No. AUK/SA/30144

Job Number : 327447

BAE/AG/30235 / MAA

**TEST REPORT**

Part Number : AN4C13A  
 Customer : B/E AEROSPACE CONSUMABLE MANAGEMENT  
 Procurement Spec. : NASM6812 REV. 3  
 Surface Finish Spec : AMS2700 REV.E  
 Heat Treat Spec : AMS2759/5 REV. D  
 Mgmt Permeability : N/A

Part Standard : NASM3-20 REV. 2  
 Cust. Purchase Order Number : 0SHL48  
 Thread Size & Form : .250-28 UNF-3A  
 Thread Spec : MIL-S-7742 REV. D  
 Sample Size Spec. : NASM6812 REV. 3

Shipped Quantity\* : 25000  
 Mfg Quantity: 26000  
 Matl Spec: AMS 5628 REV. F  
 Item Description: Bolt  
 Heat Number: 567862

\* Actual piece count is within +/- 2% of the shown lot quantity.

**NON-DESTRUCTIVE TESTS / SUBCONTRACTED (SEE CERTIFICATION)**

Sample Size : 50 specimens Inspection Results: Accept : 50 Reject : 0 specimens  
 Magnetic Particle : ASTM E1444M-12 Fluorescent Penet. : N/A

**METALLURGICAL EXAMINATION RESULTS**

Sample Size :	5 specimens	Accept :	5	Reject :	0	Lab Mount No. :	44958
GRAIN SIZE :	8.0	HEAD STRUCTURE :	Accept	LAPS :	Accept	MICRO STRUCTURE :	Accept
FILLET COLD WORKED :	Accept	DECARB :	Accept	SEAMS :	Accept	CARBURIZED :	Accept
GRAIN FLOW HEAD :	Accept	GRAIN FLOW THREAD :	Accept	CRACKS :	Accept	THREAD RUN OUT :	Accept

**MECHANICAL TESTS RESULTS**

ULTIMATE TENSILE STRENGTH (lbs.) - Loc. of Failure: Threads  
 Sample Size : 5 specimens Accept : 5 Reject : 0 Minimum Req.: 4080  
 Maximum Req.: 0

1.	5710	2.	5673	3.	5666	4.	5655	5.	5628	6.	N/A	7.	N/A	8.	N/A
9.	N/A	10.	N/A	11.	N/A	12.	N/A	13.	N/A	14.	N/A	15.	N/A	16.	N/A
17.	N/A	18.	N/A	19.	N/A	20.	N/A	21.	N/A	22.	N/A	23.	N/A	24.	N/A
25.	N/A	26.	N/A	27.	N/A	28.	N/A	29.	N/A	30.	N/A	31.	N/A	32.	N/A

SHEAR (lbs.) S/D : SINGLE Sample Size : 5 specimens Accept : 5 Reject : 0 Minimum Req.: 3680

1.	4422	2.	4463	3.	4396	4.	4444	5.	3999	6.	N/A	7.	N/A	8.	N/A
9.	N/A	10.	N/A	11.	N/A	12.	N/A	13.	N/A	14.	N/A	15.	N/A	16.	N/A
17.	N/A	18.	N/A	19.	N/A	20.	N/A	21.	N/A	22.	N/A	23.	N/A	24.	N/A
25.	N/A	26.	N/A	27.	N/A	28.	N/A	29.	N/A	30.	N/A	31.	N/A	32.	N/A

HARDNESS TEST - Sample Size : 5 Hardness Req. RC : 26-32 Hardness Results : 27-28

STRESS RUPTURE TEST - N/A Load (Lbs.) : 0 Temperature (F) : 0 | Periodic test, REF Job No.

Sample Size : 0 Hours : 0

FATIGUE TEST - N/A Cycles : 0 DFAR 252.225.7009 COMPLIANCE Min Req. : 0

Sample Size : 0 Low Load (lbs.) : 0 High Load (lbs.) : 0

TORQUE TEST - N/A Sample Size : 0 Load (Lbs/in) : 0

STRESS DURABILITY TEST - N/A Sample Size : 0 LOAD (Lbs.) : 0 Hours: 0

STATEMENT OF CONFORMANCE:

This report relates only to items inspected/tested. Deviations from standard test methods, if any, are noted, and results from subcontracted inspection or testing, if any, are identified. All items were manufactured in the USA under a quality management system, which complies with ISO 9001 and with AS 9100. CALIFORNIA SCREW PRODUCTS CORP, hereby states: That the above product is mercury free; that the above listed lot has been produced, sampled, tested, inspected and marked in accordance with all requirements and that the product complies with all specification and contract requirements; that evidence of which is in the files of our company subject to examination. This report shall not be reproduced except in full unless authorized in writing by CALIFORNIA SCREW PRODUCTS CORPORATION.

MARIA ELENA  
TORRES

B/E Aerospace, Inc. - Consumables Management  
 Self Release  
 Signature and Stamp: *Maria Elena Torres*  
 Date: MAR 24 2014  
 SP

FINAL INSPECTOR

(Name, Signature, Stamp and Date)  
 MAR 24 2014

CERTIFICATE OF TESTS  
CERT SERIAL# 000870778

 CARPENTER

Carpenter Technology Corporation  
101 West Bern Street, Reading, Pa. 19601  
Tel: (610) 208-2000 (800) 338-4592

04/08/13  
CUSTOMER/BESTELLER/CLIENT

CALIFORNIA SCREW PRODUCTS CORP

PO BOX 228  
PARAMOUNT CA 90723

ABNAHMEPRUEFZEUGNIS

5/1327447

CERTIFICAT DE CONTROLE

- THE RECORDING OF FALSE, FICTIONAL OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

SELLER/VERKAUFER/VENDEUR PAGE 1 OF 2

RAN

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
123558	W67009	04/08/13	1904.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 567862

PRODUCT DESCRIPTION: TYPE 431 ANNEALED COLD FINISH SEAM FREE C HDG CL N2 HVY  
CU/MOLY/SOAP

SPECIFICATION: AMS 5628 (REFIRMED) REV F (10/06)  
MIL-S-18732D "CAP OF" MOD NICKEL NOTICE 1 (03/19/91)  
ASTM-A493-09

SIZE 0.246500 IN. ( 6.26 MM) RD WIRE

PRIMARY HEAT CHEMISTRY (WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN (XRF)	SI (XRF)	P (XRF)	S (COM)	CR (XRF)
0.16	0.65	0.51	0.017	0.001	16.20
NI (XRF)	MO (XRF)	CU (XRF)	N (FUS)		
1.57	0.02	0.07	0.05		

THIS MATERIAL CONFORMS TO THE TECHNICAL REQUIREMENTS OF THE AMS SPECIFICATION REFERENCED ABOVE.

DISCS MACROETCHED AND APPROVED.

TENSILE AS SHIPPED, KSI (MPA) 98.5 ( 679)

MAGNETIC PARTICLE: FREQUENCY = 0 / SEVERITY = 0

MAX QUENCH HARDNESS, HRC - 53 - 1875 F ( 1024 C) 30 MN OIL TREAT

CAPABILITY

1875 F ( 1024 C), 30 MN  
QUENCH IN AGITATED OIL AT 125F +/- 25F COOL T  
1175 F ( 635 C), 03 HR AIR COOL

RETAINED AUSTENITE - NONE (VILELLAS)

MICROSTRUCTURE - FERRITE - NONE (VILELLAS)

GRAIN SIZE PER ASTM E112: 7 (VILELLAS)

RMIK 8993  
JOSE ERVANES  
APR 17 2013  
32 GSP

DFAR 252.225.7009  
COMPLIANCE

CONTINUED ON NEXT PAGE

**CERTIFICATE OF TESTS**  
CERT SERIAL# 000870778



Carpenter Technology Corporation  
101 West Bern Street, Reading, Pa. 19601  
Tel: (610) 208-2000 (800) 338-4592

04/08/13  
CUSTOMER/BESTELLER/CLIENT

CALIFORNIA SCREW PRODUCTS CORP

PO BOX 228  
PARAMOUNT CA 90723

**ABNAHMEPRUEFZEUGNIS**

5/1327447

**CERTIFICAT DE CONTROLE**

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- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

SELLER/VERKAUFER/VENDEUR PAGE 2 OF 2

RAN

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
123558	W67009	04/08/13	1904.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 567862

**CAPABILITY**

1875 F { 1024 C), 01 HR	OIL TREAT
-100 F { -73 C), 02 HR	
WARM TO ROOM TEMPERATURE.	
550 F { 288 C), 02 HR	AIR COOL
550 F { 288 C), 02 HR	AIR COOL

(T) RANSVERSE (L) ONGITUDINAL	L
YIELD STRENGTH, (0.20 %) KSI (MPA)	151.0 ( 1041)
TENSILE STRENGTH, KSI (MPA)	216.0 ( 1489)
ELONGATION IN 2.00", %	17.0
REDUCTION OF AREA, %	50.0

MATERIAL HAS BEEN MELTED AND MANUFACTURED IN THE USA WHICH IS A QUALIFYING COUNTRY TO DFARS REQUIREMENTS 252.225-7014 WITH ALTERNATE 1 FOR QUALIFYING COUNTRY 225.872.1, SUPERSEDED BY DFARS REQUIREMENTS DFARS 252.225-7008 AND 252.225-7009.  
THIS ORDER WAS MANUFACTURED IN ACCORDANCE WITH CARPENTER SPECIALTY ALLOYS OPERATIONS QUALITY PROGRAM MANUAL, REVISION 30 DATED 09/28/11.

CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF NOVEMBER 24, 2010 TO THE REQUIREMENTS OF ISO 9001:2008 APPROVAL CERTIFICATE 10-1385R BY PERFORMANCE REVIEW INSTITUTE. CERTIFICATE OF TEST IS PREPARED IN ACCORDANCE WITH PARAGRAPH 3.1 OF EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS, AS DOCUMENTED IN THIS CERTIFICATE OF TESTS.

TEST METHODS ARE PER THE ASTM STANDARDS ON FILE AND IN EFFECT AT TIME OF ORDER ACCEPTANCE, STANDARD PRACTICES, OR AS AGREED UPON BETWEEN CARPENTER & CUSTOMER.

SHERRY L KREIDER  
ADMINISTRATOR - QUALITY  
CARPENTER TECHNOLOGY CORPORATION

RMK 8993

JOSE ERVANES

APR 17 2013

DFAR 252.225.7009  
COMPLIANCE

Sherry L. Kreider

# Bodycote

Huntington Park Division  
 3370 Benedict Way Huntington Park, CA 90256  
 Phone: 323.583.1231  
 QC Fax: 323.583.9640 Accounting Fax: 323.583.0515  
[www.bodycote.com](http://www.bodycote.com)

## Bill To

California Screw Products Corporation  
 14957 Gwenchris Court  
 Paramount, CA 90723

## Ship To

Ship To: 78-15267-1  
 California Screw Products Corporation  
 14957 Gwenchris Court  
 Paramount, CA 90723

We are pleased to submit our CERTIFICATION OF HEAT TREATMENT of the following:

Order No 262617	PO Number 136576	PL Number 2/11/14	Received 2/10/2014 3:00:32 PM	
<b>Requirements</b>				Value
Surface Hardness Min (HRC)				27.0
Surface Hardness Max (HRC)				32.0
Qty 26000	Wgt 600	Part No. AN4C13A	Part Name Rev NA	Material 431
Part Description Job No. 327447 Part Standard NASM3-20 REV 2 CODE 4135 HEAT NO. 567862 Hardened, Cold Stabilized and Tempered to 27-32 HRC per AMS 2759/5 Rev D and the Purchase Order.				
1 Bodycote Coupon				
26000	600	<b>Total</b>		

We hereby certify that the parts described on this document were Heat Treated in accordance with the above noted specifications and the following results were obtained with standard approved methods.

Parts processed free of mercury contamination.

<b>Recorded Values</b>		Value
Surface Hardness Min (HRC)		30.0
Surface Hardness Max (HRC)		31.0
Quantity Inspected = (integer)		5

Furnace #	Process	Temperature	Time	Quench
502	Vacuum Harden	1875F	30 Minute	Oil/122F
604	Cold Stabilize	-100F	2 Hour	
434	Temper	1125F	3 Hour 30 Minute	
431	Temper	1125F	3 Hour 30 Minute	

**Lab Results:**  
 Decarb contamination results conform to specification requirements.

All processes involved in the production of these articles and requiring specific process approval have been so approved and certificates are on file subject to examination.

Bodycote - H.P.  
 Certified: 2/18/2014

By: Idania Recinos QC Tech



California Screw Products Corporation  
 (Fax) 1 (562) 633-2082



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
4	25	EA	AN310C3		0508645-340	GREER STOP NUT / SPS		27687	

  
\_\_\_\_\_  
Jason Lewis  
Vice President of Quality

04/09/14

## GREER STOP NUT

**SPS** 481 McNALLY DRIVE • NASHVILLE, TN 37211  
TECHNOLOGIES

## PACKING LIST

**PACKING LIST**

## PREVENT FRAUD

Any alteration or misuse of this certificate, or any unauthorized rework or modification of the identified products voids all manufacturer's warranties, and may lead to civil damages and/or criminal penalties.

CUSTOMER NBR 01-0001-00427568-0001

B/E AEROSPACE CONSUMABLES  
MANAGEMENT  
9835 NW 14TH ST.  
MIAMI, FL 33172

33172

THE PRODUCTS THAT ARE COVERED BY THIS AGREEMENT, ARE OF U.S. ORIGIN OR OTHERWISE SUBJECT TO U.S. EXPORT AND OTHER FOREIGN TRADE CONTROLS. THE EXPORT, DEEMED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS TO OTHER COUNTRIES OR PARTIES MAY REQUIRE THE PRIOR APPROVAL OF THE U.S. GOVERNMENT. DIVERSION OF THESE PRODUCTS FROM THE AUTHORIZED DESTINATION CONTRARY TO U.S. AND INTERNATIONAL LAW IS PROHIBITED. THE PURCHASER AGREES TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS OF THE UNITED STATES, OTHER RELEVANT JURISDICTIONS, AND PERTINENT INTERNATIONAL ORGANIZATIONS PERTAINING TO THE EXPORT, DEEMED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS. ANY VIOLATIONS OF THIS CLAUSE, AS DETERMINED SOLELY BY SPS TECHNOLOGIES AND OR GREEN STOP NUT, SHALL BE DEEMED A MATERIAL BREACH OF THIS AGREEMENT.

CLAIMS FOR GOODS MUST BE  
MADE ON RECEIPT OF GOODS.  
NO MATERIAL ACCEPTED FOR RETURN  
WITHOUT OUR PERMISSION.

PUBLISHED 11/15/13

**ORDER NBR**

103445-001

KOKFDEFRT: 11/15/13 09:43:33

**ORDER DATE**

06/28/13

P/S #: 10344500

PAGE

B/E AEROSPACE CONSUMABLES  
MANAGEMENT (MIAMI)  
P O BOX 025263  
MIAMI, FL 33141

33102-526

LOT NO.	0508645-340					All parts are shipped free of mercury contamination. All damages exceeding price are excluded.  GREEN NYLON INSERT is a registered trademark of GREER STOP NUT
QUANTITY	3,859					
AREA	3A3					

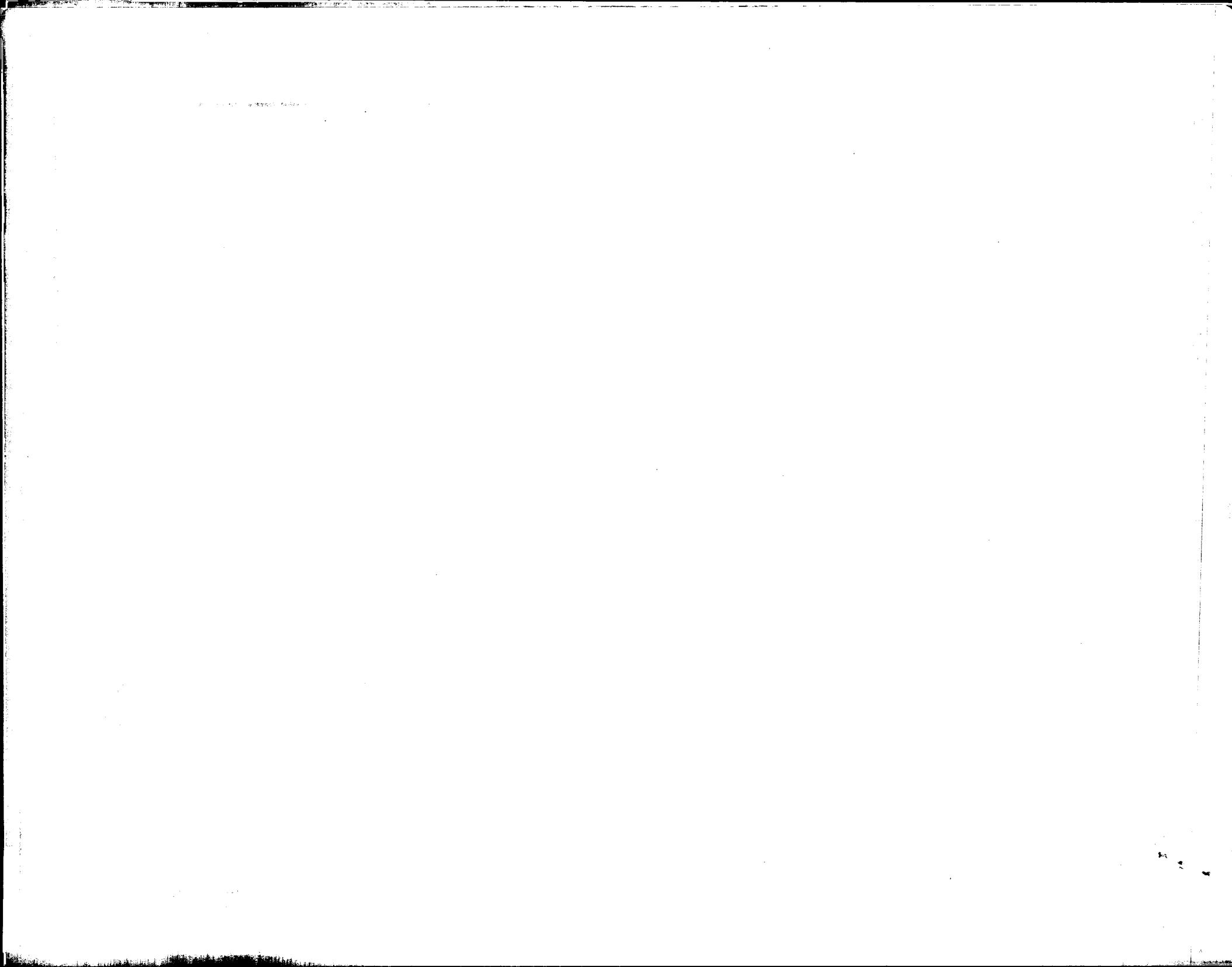
All parts are shipped free of mercury contamination.  
All damages exceeding price are excluded.

GREEN NYLON INSERT is a registered trademark of GREER STOP NUT

**F.R** FREIGHT  
RECORD

3003 REV. 8/11







# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

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**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
3	75	EA	AN310-4		0502115-490	GREER STOP NUT / SPS		27687	

  
Jason Lewis  
Vice President of Quality

04/09/14

**GREER STOP NUT**481 McNALLY DRIVE • NASHVILLE, TN 37211  
**SPS** TECHNOLOGIES**PACKING LIST****PREVENT FRAUD**

Any alteration or misuse of this certificate, or any unauthorized rework or modification of the identified products voids all manufacturer's warranties, and may lead to civil damages and/or criminal penalties.

THE PRODUCTS THAT ARE COVERED BY THIS AGREEMENT ARE OF U.S. ORIGIN OR OTHERWISE SUBJECT TO U.S. EXPORT AND OTHER FOREIGN TRADE CONTROLS. THE EXPORT, DEEMED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS TO OTHER COUNTRIES OR PARTIES MAY REQUIRE THE PRIOR APPROVAL OF THE U.S. GOVERNMENT. DIVERSION OF THESE PRODUCTS FROM THE AUTHORIZED DESTINATION CONTRARY TO U.S. AND INTERNATIONAL LAW IS PROHIBITED. THE PURCHASER AGREES TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS OF THE UNITED STATES, OTHER RELEVANT JURISDICTIONS, AND PERTINENT INTERNATIONAL ORGANIZATIONS PERTAINING TO THE EXPORT, DEEMED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS. ANY VIOLATIONS OF THIS CLAUSE, AS DETERMINED SOLELY BY SPS TECHNOLOGIES AND OR GREER STOP NUT, SHALL BE DEEMED A MATERIAL BREACH OF THIS AGREEMENT.

CLAIMS FOR GOODS MUST BE MADE ON RECEIPT OF GOODS.  
NO MATERIAL ACCEPTED FOR RETURN WITHOUT OUR PERMISSION.

PUBLISHED 05/29/13

ORDER NBR 081985-001

ORDER DATE 09/28/12

P/S # 081985001

PAGE 1

CUSTOMER NBR 01-0001-00427568-0001

B/E AEROSPACE CONSUMABLES  
MANAGEMENT  
9835 NW 14TH ST.  
MIAMI, FL 33172

B/E AEROSPACE CONSUMABLES  
MANAGEMENT (MIAMI)  
P O BOX 025263  
MIAMI, FL 33102-5263

CUSTOMER P.O.		TERMS		SHIP FROM	SCHEDULE DATE	PO #		OKT890	
OKT890	NET 30 DAYS	AT	05/29/13	REG	TERR	CREP	REQ. DATE		
CARRIER CD/DESC		CARRIER NBR	FREIGHT						
TEK	ANY TRUCKING ITEM	COL.	COLLECT	2251	50	0103	09/28/12		
LNE.	PRODUCT CODE	DESCRIPTION	ALTERNATE CODE	QUANTITY	UM	UNIT PRICE	ACT QTY		

001 0802115	AN310-4 UNDER 150W SHIP FEDEX GROUND ACCT #0331-0149-0 MARK COLLECT OVER 150 LBS SHIP FED EX NATIONAL LTL ACCT #081757 SHIPPING BOX WEIGHT LIMIT 40 LBS CHEMICAL AND PHYSICAL CERTS SHIP VARIANCE +/- 10% TOTAL QUANTITY - 125000 ROHAN JOHNSON/FGH	AN310-4	1.25000 C	133,343
-------------	--	---------	-----------	---------

d.s.

d.s.

d.s.

LOT NO.	0502115-470	0502115-500	0502115-490	All parts are shipped free of mercury contamination. All damages exceeding price are excluded. GREEN NYLON INSERT is a registered trademark of GREER STOP NUT
QUANTITY +	43,845	44,630	40,308	
AREA	3D3	4E4	4D5	

**FREIGHT RECORD**  
3003 REV. 8/11

WEIGHT	BOXES	PREPD	COLL.	CARRIER	BILL OF LADING	FREIGHT CHARGE
180.0	124	X	FedEx			

**GREER STOP NUT**

Greer Stop Nut  
481 McNally Drive  
Nashville, TN 37211

Phone: 615-832-8375  
Fax: 615-331-5070  
E-mail: greer@spstech.com

**CERTIFICATE OF CONFORMANCE**

Date of Certification: May 29, 2013

Sold To: B/E Aerospace Consumables Management  
9835 NW 14th St  
Miami, FL  
33172

Purchase Order No: 0KTR80

Customer Part No: AN310-4 Rev. 10 & NASM310 Rev. 1

Item No: 001

Greer Part No: F22SC310-0428 Nomenclature: Nut, Plain, Castellated

Lot No/Serial No: 0502115-490 (Ref. 0502116-10R) Qty. Manufactured: 47,588 Qty. Shipped: 40,868

Manufacturing Date: 4-23-13

Material: 1137 Material Specification: AMS 5024H, ASTM A108-07 Material Supplier: Nielsen Steel Company

Mill Heat No: 20216060 Greer Steel Date: CJ644J

Procurement Spec: FF-N-836E Threads: MIL-S-7742 Rev. D Am. 1

Proof Load: 4,080 lbs. Tested Tc: 4,080 lbs. Sample Size: 6

Non-Destructive Testing: Magnetic Particle Inspection Specification: ASTM E-1444-11 Sample Size: 29  
Magnetic Particle Inspection in accordance with MT2000 Rev. 14 DTD 5-31-12 as modified by MT69611 Rev. 5 DTD 5-5-10

Surface Finish: Cadmium & Yellow Chromate Specification: AMS-QQ-P-416 Type II Class 2 Rev. C

The products identified on this certificate have been manufactured, tested and inspected in accordance with, and unless noted above, conforms in all respects to the applicable drawings, specifications and/or standards. Complete reports of physical and chemical tests are on file for on-site examination. If no specified customer quality level is required, goods conform to seller's quality level. Reproduction except in full is strictly prohibited without written approval of Greer Stop Nut. All damages exceeding price are excluded. Mercury free clause: We certify that no possibility exists for mercury contamination to occur during manufacture, assembly or testing of parts on this contract. This document relates only to the items tested. Parts were manufactured in the United States of America. Sample plans are carried out to current standard/specification revision.

G and Green Nylon are Trademarks of Greer Stop Nut

Fran Glover  
Quality Assurance Coordinator



The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States meeting DFAR's compliance.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory	Address		
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080	
0358-02	8171	CSSR/CSSP	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080	
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457	
0358-04	125544	CSCM/CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004	
		--	Subcontracted test performed by laboratory not in Charter Steel system.		

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Specification	CSSM	CSSR/CSSP	CSFP	CSCM/CSCR
Chemistry Analysis	ASTM E415; ASTM E1019	X			X
Macroetch	ASTM E381	X			X
Hardenability (Jominy)	ASTM A255; SAE J406; JIS G0561	X			X
Grain Size	ASTM E112	X	X	X	X
Tensile Test	ASTM E8; ASTM A370		X	X	X
Rockwell Hardness	ASTM E16; ASTM A370	X	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	
Inclusion Content (Methods A, E)	ASTM E45		X		X
Decarburization	ASTM E1077		X	X	X

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 12/31/13.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
  - It may be distributed only to their customers.
  - Both sides of all pages must be reproduced in full.
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



CHARTER  
STEEL

A Division of  
Charter Manufacturing Company, Inc.

# CHARTER STEEL

EMAIL

1658 Cold Springs Road  
Saukville, Wisconsin 53080  
(262) 268-2400  
1-800-437-8789  
FAX (262) 268-2570

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

Neisen Steel Co.  
9400 Belmont Ave.  
Franklin Park, IL - 60131  
Kind Attn: Ken Koeppi

Customer ID	55645
Customer Ref ID	H05312R1137
Charter Sales Order	70033937
Heat No	20216060
Shipment No	2033242
Customer	1137 R CGP CG FMQ 17/32
Process	HR
Spec No	17/32

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

Lab Code: 125544	Test Results of Heat Lot# 20216060											
	C	MN	P	S	Si	Ni	CR	MO	CU	SN	V	
%Wt	.39	1.41	.008	.111	.08	.05	.08	.07	.12	.008	.001	
AL	N	B	T	CA	NB	SB	AS	PB				
.0070	.0001	.001	.0013	.001	.001	.002	.005	.002				
JOMINY(HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM12	
58	54	50	40	33	28	27	26	25	24	21		
JOM14	JOM16											
21	20											

JOMINY SAMPLE TYPE: ENGLISH - C DI = 1.73  
CHEM. DEVIATION EXT. - GREEN

# of Tests	Test Results of Rolling Lot# 2033242		
	Min Value	Max Value	Mean Value

NUM DECARB = 1 AVE DECARB = .003  
REDUCTION RATIO = 221:1

Specifications: Manufactured per Charter Steel Quality Manual Rev 9.08-01-09  
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = 1137-512 Revision = 5 Dated = 08-AUG-11

Additional Comments:

Charter Steel  
Cuyahoga Heights, OH, USA

Re: Email, Fax, Mail



Page 1 of 1

This MTR supersedes all previously dated MTRs for this order

  
Janice Bernard  
Manager of Quality Assurance  
07/25/2012



# B/E Aerospace, Inc.

Page 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
5	100	EA	AN4-42A		323300	CALIFORNIA SCREW PRO	8Z507		

  
Jason Lewis  
Vice President of Quality

04/09/14



CALIFORNIA SCREW PRODUCTS CORPORATION  
14957 GWENCHRIS COURT  
PARAMOUNT, CALIFORNIA 90723-3423  
TEL (562) 633-6626  
FAX (562) 633-2082

PACKING SLIP

Original : 28769

Sold To:

003635  
B/E AEROSPACE CONSUMABLE MANAGEMENT  
P.O. BOX 025263  
MIAMI, FLA 33102-5263

Ship To:

\*\*\*\*\*  
B/E AEROSPACE CONSUMABLE MANAGEMENT  
9835 NW 14TH ST.  
MIAMI, FLA 33172

Customer P.O. No.	Sales Order	Date	Ship Via	Job No.		
OYN947	46954	09-16-11	FED EX GROUND/WATKIN	32330Q		
Pos	Item	Ordered	Delivered Qty	Unit	Weight	No. of Cartons

10	AN4-42A	5556	5556	ea	363	11
----	---------	------	------	----	-----	----

Honeywell Source Accepted:	
Stamp Impression	_____
Date	SEP 16 2011

RMRA #\_\_\_\_\_

MANUFACTURERS OF AIRCRAFT FASTENERS AN-MS-NAS  
**CALIFORNIA SCREW PRODUCTS CORP.**

CAGE NUMBER : 14957 GWENCHRIS COURT  
 Airbus UK Approval No: AUK/SA/30144

PARAMOUNT, CALIF. 90723-3423

Job Number : 323300  
 BAE/AG/30235 / MAR

**TEST REPORT**

Part Number : AN4-42A  
 Customer : B/E-AEROSPACE CONSUMABLE MANAGEMENT  
 Procurement Spec. : NASM6812 REV. 2  
 Surface Finish Spec. : AMS-QQ-P-416 REV. C  
 Heat Treat Spec. : AMS2759/1 REV. E  
 Mngt Permeability : N/A

Part Standard : NASM3-20 REV. 2  
 Cust. Purchase Order Number : 0YN947  
 Thread Size & Form : .250-28 UNF-3A  
 Thread Spec. : MIL-S-7742 REV. D  
 Sample Size Spec. : NASM6812 REV. 2

Shipped Quantity\* : 5556  
 Mfg Quantity: 6000  
 Matl Spec: AMS 6322 REV. N  
 Item Description: Bolt  
 Heat Number: 10073780

\* Actual piece count is within +/- 2% of the shown lot quantity.

\* CONFORMS TO REQUIREMENTS OF ANS THRU AN3 REV. 12  
 NON-DESTRUCTIVE TESTS / SUBCONTRACTED (SEE CERTIFICATION)

Sample Size : 32 specimens Inspection Results: Accept : 32 Reject : 0 specimens  
 Magnetic Particle : ASTM E1444-05 Fluorescent Penet. : N/A

**METALLURGICAL EXAMINATION RESULTS**

Sample Size:	5 specimens	Accept:	5	Reject:	0	Lab Mount No.:	41324
GRAIN SIZE	: N/A	HEAD STRUCTURE	: Accept	LAPS	: Accept	MICRO STRUCTURE	: Accept
FILLET COLD WORKED	: Accept	DECARB	: Accept	SEAMS	: Accept	CARBURIZED	: Accept
GRAIN FLOW HEAD	: Accept	GRAIN FLOW THREAD	: Accept	CRACKS	: Accept	THREAD RUN OUT	: Accept

**MECHANICAL TESTS RESULTS**

ULTIMATE TENSILE STRENGTH (lbs.) - Loc. of Failure: Threads  
 Sample Size : 5 specimens Accept : 5 Reject : 0 Minimum Req.: 4080  
 Maximum Req.: 0

1.	5516	2.	5699	3.	5494	4.	5614	5.	5495	6.	N/A	7.	N/A	8.	N/A
9.	N/A	10.	N/A	11.	N/A	12.	N/A	13.	N/A	14.	N/A	15.	N/A	16.	N/A
17.	N/A	18.	N/A	19.	N/A	20.	N/A	21.	N/A	22.	N/A	23.	N/A	24.	N/A
25.	N/A	26.	N/A	27.	N/A	28.	N/A	29.	N/A	30.	N/A	31.	N/A	32.	N/A

SHEAR (lbs.) S/D : SINGLE Sample Size : 5 specimens Accept : 5 Reject : 0 Minimum Req.: 3680

1.	4606	2.	4316	3.	4403	4.	4370	5.	4419	6.	N/A	7.	N/A	8.	N/A
9.	N/A	10.	N/A	11.	N/A	12.	N/A	13.	N/A	14.	N/A	15.	N/A	16.	N/A
17.	N/A	18.	N/A	19.	N/A	20.	N/A	21.	N/A	22.	N/A	23.	N/A	24.	N/A
25.	N/A	26.	N/A	27.	N/A	28.	N/A	29.	N/A	30.	N/A	31.	N/A	32.	N/A

HARDNESS TEST Sample Size : 8 Hardness Req. RC : 26-32 Hardness Results : 28-30

STRESS RUPTURE TEST - N/A Load (lbs.) : 0 Temperature (F) : 0 Periodic test, REF Job No.  
 Sample Size : 0 Hours : 0

FATIGUE TEST - N/A Cycles : 0 Min. Req. : 0  
 Sample Size : 0 Low Load (lbs.) : 0 High Load (lbs.) : 0

TORQUE TEST - N/A Sample Size : 0 Load (lbs/in) : 0

DFARS 252.225-7014 ALT. 1  
 COMPLIANCE

STRESS DURABILITY TEST - N/A Sample Size : 0 LOAD (lbs.) : 0 Hours: 0

**STATEMENT OF CONFORMANCE:**

This report relates only to items inspected/tested. Deviations from standard test methods, if any, are noted, and results from subcontracted inspection or testing, if any, are identified. All items were manufactured in the USA under a quality management system, which complies with ISO 9001 and with AS 9100. CALIFORNIA SCREW PRODUCTS CORP, hereby states: That the above product is mercury free; that the above listed lot has been produced, sampled, tested, inspected and marked in accordance with all requirements and that the product complies with all specification and contract requirements; that evidence of which is in the files of our company subject to examination. This report shall not be reproduced except in full, unless authorized in writing by CALIFORNIA SCREW PRODUCTS CORPORATION.

MARIAELENA  
 TORRES

Honeywell Source Accepted:

Stamp Impression \_\_\_\_\_



Date SEP 16 2011

RMRA. #

(Name, Signature, Stamp and Date)

FINAL INSPECTOR SEP 16 2011



**WireTech, Inc.**

6440 E. Canning Street  
Los Angeles, CA 90040  
Phone (323) 722-4933  
Fax (323) 721-2738

SOLD TO

Cal Screw Products  
14957 Gwenchriss Ct.  
Paramount, CA 90723  
USA

WORK ORDER  
083494

**CERTIFICATION**  
HEAT NO.  
10073780/  
SALES ORDER / RLS  
839640 / 1  
ISO 9001-2000 REGISTERED



J/N 323300

CERT# 911.01

CUSTOMER P.O. 111282	CUSTOMER PART h1196	QUANTITY 2,583 Lbs	CARRIERS 2	LOADING NO 00090289	SHIPMENT DATE 06/02/2011
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**SPECIFICATION C048740-102455A**  
**A-8740, AQ, SKFG, CHG WIRE, SAIP Zinc Phosphate, Lime & Stearate Coating, Size:0.245/0.246 Specifications:**  
**AMS2301H, AMS6322N, MIL-S-6049A, AMEND. 1, H1196, AMS-S-6049-A**

**CERTIFICATION REQUIREMENTS**

**Chemical Properties**

C .41	Si .24	Mn .95	P .014	S .013	Cu .14	Ni .43	Cr .41	Mo .21
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**Physical Properties**

Grain Size	Jominy 1	Jominy 2	Jominy 3	Inclusions	Macro	Cleanliness	Mill Source
6	S=52	8=44	10=37	S2-R1-C2	GOOD	F&S=0	Charter

**Country of Origin**

USA - DFAR Compliant

**Mechanical Properties**

TEST	UNITS	Results
Tensile Strength	KSI	83.3
Yield Strength	KSI	70.8
% Elongation	%	29
% Reduction of Area	%	71.6
Rockwell Hardness B Scale	HRB (s)	86

KM1K 8573

JOSE ERVANTES  
6-3-2011

DFAR 252.225-7014 ALT. 1  
COMPLIANCE

Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be honored. "The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47."

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, IFI 140, inclusion rating per ASTM E 48, decarburization performed as per IFI 140. The reported Chemical and Physical Properties are Mill Source results. Transcribed from mill certificates. HRB(W) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. -Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.

TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.

"LATEST REVISIONS OF ASTM"

DFAR Material per Clauses 252.225-7014 ALT. 1, 252.225-7009, & 225.003(9)

Material is free of mercury, radium, or alpha contamination.

CHARTER  
STEEL

A Division of  
Charter Manufacturing Company, Inc.

# CHARTER STEEL

EMAIL

1658 Cold Springs Road  
Saukville, Wisconsin 53080  
(262) 268-2400  
1-800-437-8789  
FAX (262) 268-2570

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

Wiretech Incorporated  
6440 East Canning Street  
Los Angeles, CA-90040  
Kind Attn : Cert To Contact

Cust P.O.	6513-3
Customer Part #	8740C1A080-C-R
Charter Sales Order	70011147
Heat #	10073780
Ship Lot #	4026728
Grade	8740 R SK FG AQ 21/64
Process	HRSA
Finish Size	21/64

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

Lab Code: 7388	Test Results of Heat Lot# 10073780											
	C %Wt	MN .41	P .014	S .013	SI .24	NI .43	CR .41	MO .21	CU .14	SN .008	V .001	
	AL .027	N .0070	B .0001	T1 .002	NB .002							
JOMINY(HRC)	JOM01 57	JOM02 57	JOM03 56	JOM04 55	JOM05 52	JOM06 51	JOM07 47	JOM08 44	JOM09 39	JOM10 37	JOM11 37	JOM12 38
	JOM13 35	JOM14 34	JOM15 33	JOM16 32	JOM18 31	JOM20 31	JOM22 30	JOM24 29	JOM26 29	JOM28 29	JOM30 29	JOM32 28

JOMINY SAMPLE TYPE ENGLISH = B JOMINY LAB = 0358-01  
MACRO ETCH SURFACE = 1 MACRO ETCH RANDOM = 1 MACRO ETCH CENTER = 1  
AMS 2301 FREQUENCY AVERAGE = .03 AMS 2301 FREQUENCY INDIVIDUAL = .06  
AMS 2301 SEVERITY AVERAGE = .02 AMS 2301 SEVERITY INDIVIDUAL = .03  
CHEM. DEVIATION EXT. -GREEN -

Test Results of Rolling Lot# 1013507												
REDUCTION RATIO = 358:1												

Test Results of Processing Lot# 4026661, 4026728												
	# of Tests	Min Value	Max Value	Mean Value								
TENSILE	2.0	83.9	83.9	83.9								
REDUCTION OF AREA	2	63	66	65								
ROCKWELL B	2	80	81	81								

NUM DECARB = 3 FREE FERRITE DECARB = .000 FREE FERR & PARTIAL DECARB = .001  
CP SPHERO % LAB = 0358-02 NUM SPHERO = 3 SPHERODIZATION = 83.3

Specifications: Manufactured per Charter Steel Quality Manual Rev 9.08-01-09  
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = COP 3010 Revision = M Dated = 12-MAR-03

Additional Comments: MEETS REQUIREMENTS OF SPECIFICATIONS AMS6322N/AMS2301J/MIL-S-6019A

HMW 8573  
Jose Serrantes  
6.3.2011  
DFARS 252.235-7014 ALT. 1  
COMPLIANCE

Charter Steel  
Saukville, WI, USA



Rem: Load1,Fax0,Mail0

Page 1 of 1

Janice Barnard  
Manager of Quality Assurance  
07/15/2010

J/N 323300

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR/ CSSP	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSCM/ CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
•	•	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSSM, CSCM/CSCR	ASTM E415; ASTM E1019
X-ray Fluorescence Stainless and Alloy Steel	CSCM/CSCR	ASTM E572
Macroetch	CSSM, CSCM/CSCR	ASTM E381
Hardenability (Jominy)	CSSM, CSCM/CSCR	ASTM A255; SAE J406; JIS G0561
Grain Size	CSSM	ASTM E112
Tensile Test	CSSR/CSSP, CSFP, CSCM/CSCR	ASTM E8; ASTM A370
Rockwell Hardness	All labs	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSSR/CSSP, CSFP	ASTM A892
Inclusion Content (Methods A, E)	CSSR/CSSP, CSCM/CSCR	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/11.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



KM14 8573  
Jose Hernandez  
6-3-2011  
DIFARS 252-225-7014 ALT. 1  
COMPLIANCE

# Certification

Tri-J Heat Treating

327 E Commercial St,

Pomona CA 91767

Phone: 909-622-9999 Fax: 909-622-1790

Order No.: 22351

Date: 08/12/2011

Entry Date: 08/10/2011

Page: 1

**To:** CALIFORNIA SCREW PRODUCTS COR  
P.O.Box 228

Purchase Order No.: 114041

Job#: 323300

Material: 8740

PARAMOUNT CA 90723

Phone: 562-633-6626

We are pleased to provide you with the following Certification

Quantity	Part Number / Part Name / Part Description	Pounds
6,000	AN4-42A REV NA , NASM3-20 REV 2	400

Heat Treat AMS 2759 / 1 REV E

Harden to specific hardness

Insp. Type	Scale	Minimum	Maximum	Results:	Scale	Minimum	Maximum	Value
Customer Requirements:				Hardness	HRC	28.0	30.0	6.0

## Process Steps

**Step: 1      Process: Heat Treat**

Treat at 1575 F, Dew point 50, Oil Quench at 130 F.(1 Hr Min)

**Step: 2      Process: Temper**

Temper at 1100 F, 1 Hr for each 400 Lbs. MIN 2 HRS

ISO 9001:2008 REGISTERED

  
Gary Madrigal  
QC Manager  
Tri-J Heat Treating

**CERTIFICATION**

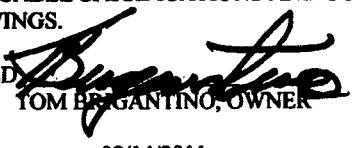
Southwest Plating Company, LLC

1344 W. Slauson Ave.  
 Los Angeles, CA 90044-2824  
 Telephone (323) 753 - 3781  
 Fax (323) 753 - 9472

DATE	INVOICE #
9/14/2011	127598

<b>BILL TO</b>
CA Screw Products Corp P.O. Box 228 Parmount,Ca. 90723

<b>SHIP TO</b>
CA Screw Products Corp 14957 Gwen Chris Ave. Parmount,Ca. 90723

P.O. NUMBER	TERMS	REP	SHIP	VIA	F.O.B.	PROJECT
114807	Net 30		9/14/2011			
QUANTITY	ITEM CODE	DESCRIPTION			PRICE EACH	AMOUNT
	# OF PIECES	6000			0.00	0.00
	PART NUMBER	AN4-42A REV.N/A NASM3-20 REV.2			0.00	0.00
	PANS	6			0.00	0.00
	JOB NUMBER	323300			0.00	0.00
	POUNDS	400			0.00	0.00
	MATERIAL	8740			0.00	0.00
	THICKNESS	.00035-.00045			0.00	0.00
	41	CAD PLATE TYPE 11 CL 2 PER AMS-QQ-P-416C .250-28 UNF-3A R/C 27-32 A/P .249-.246			0.00	0.00
	CERT	WE HEREBY CERTIFY THAT THE PROCESSING AND INSPECTION PERFORMED ON PARTS BY THIS PURCHASE ORDER ARE IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS AND CUSTOMER DRAWINGS.			0.00	0.00
	SIGN 1	SIGNED  TOM BRAGANTINO, OWNER			0.00	0.00
		DATE <u>09/14/2011</u>				
Claims must be made within 5 days of receipt of goods. No returns accepted without our approval.					<b>Total</b>	\$0.00

# Hadd-Co. Inspection Lab.

Toll Free: (888) 339-8472  
 Phone: (310) 325-7620  
 Fax: (310) 325-9655

2420 Amsler Street, Torrance, California 90505  
 www.Hadd-Co.net E-Mail: haddco@earthlink.net

No. 4913



9/16/2011

DATE :

TO:

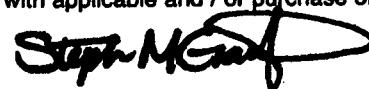
CALIFORNIA SCREW PRODUCTS, INC.  
 14957 GWENCHRIS CT  
 PARAMOUNT, CA 90723

P.O. NO.: 114917  
 JOB / LOT NO.: 323300

QUANTITY	PART NUMBER	DESCRIPTION
32	AN4-42A REV. N/A NASM3-20 REV. 2	BOLT  MPI PER ASTME1444-05 NASM6812-2 MAT: 8740 PLATED 32 PC SAMPLE OF 6000 PC LOT

100% INSPECTION  
 Magnetic \_\_\_\_\_ Penetrant \_\_\_\_\_  
 Qty Rejects \_\_\_\_\_  
**NO REJECTS**

This is to certify that parts under subject purchase order  
 have been  Fluorescent Penetrant /  Magnetically Inspected  
 in accordance with applicable and / or purchase order  
 requirements.

  
 STEPHANIE GARFIELD LEVEL II



INSPECTOR

**Note: Altering of this certification renders it void.**

OYN947 0

5556 09/27/11

AN4-42A

TOTAL O/O: 116 WHSE ONHAND: 77  
MINIMUM: 0 MAXIMUM: 0  
MIAMI BACKORDERS: 116

04/22/11 021401 DSCP FB6043 SPM5A2-11-M-QB78 116 [REDACTED] EA 04/29/11 7R7EP1 (MILITARY/GOVERNMENT)

REM STK XFER 338869 09/09/11 1 021863 M & M AEROSPACE HARD

125

116 To Jose C

Warehouse 2: Parts Falling below a 6 Month Trend Quantity

Part No.	Description
AN4-42A	BOLT

Quantity UOM  
1,320 Pcs

WH-2

BALANCED STOCK



CALIFORNIA SCREW PRODUCTS CORPORATION  
14957 GWENCHRIS COURT  
PARAMOUNT, CALIFORNIA 90723-3423  
TEL (562) 633-6626  
FAX (562) 633-2082

PACKING SLIP

Original : 28769

Sold To:	Ship To:
003635 B/E AEROSPACE CONSUMABLE MANAGEMENT P.O. BOX 025263 MIAMI, FLA 33102-5263	***** B/E AEROSPACE CONSUMABLE MANAGEMENT 9835 NW 14TH ST. MIAMI, FLA 33172

Customer P.O. No.	Sales Order		Date	Ship Via		Job No.
0YN947	46954		09-16-11	FED EX GROUND/WATKIN		32330Q ✓
Pos	Item	Ordered	Delivered Qty	Unit	Weight	No. of Cartons
*****	*****	*****	*****	*****	*****	*****
10	AN4-42A	5556	5556	ea	363	11

SKORSKY  
1758  
DQR

MAR 25 2012

Honeywell Source Accepted:	14
Stamp Impression	CSP
Date	SEP 16 2011
RMRA #	



MAR 24 2012



# Hadd-Co. Inspection Lab.

Toll Free: (888) 339-8472  
 Phone: (310) 325-7620  
 Fax: (310) 325-9655

2420 Amsler Street, Torrance, California 90505  
[www.Hadd-Co.net](http://www.Hadd-Co.net) E-Mail: [haddco@earthlink.net](mailto:haddco@earthlink.net)

No. 4913



9/16/2011

DATE:

P.O. NO.:

114917

JOB / LOT NO.:

323300

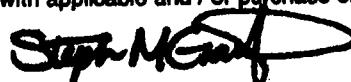
TO:

CALIFORNIA SCREW PRODUCTS, INC.  
 14957 GWENCHRIS CT  
 PARAMOUNT, CA 90723

QUANTITY	PART NUMBER	DESCRIPTION
32	AN4-42A REV. N/A NASM3-20 REV. 2	BOLT  MPI PER ASTME1444-05 NASM6812-2 MAT: 8740 PLATED 32 PC SAMPLE OF 6000 PC LOT

100% INSPECTION  
 Magnetic \_\_\_\_\_ Penetrant \_\_\_\_\_  
 Qty Rejects \_\_\_\_\_  
**NO REJECTS**

This is to certify that parts under subject purchase order  
 have been  Fluorescent Penetrant /  Magnetically inspected  
 in accordance with applicable and / or purchase order  
 requirements.

  
**STEPHANIE GARFIELD LEVEL II**



INSPECTOR

**Note: Altering of this certification renders it void.**

SIKORSKY  
1758  
DQR

MAR 25 2012



MAR 24 2012



## **CERTIFICATION**

## **Southwest Plating Company, LLC**

1344 W. Slauson Ave.  
Los Angeles, CA 90044-2824  
Telephone (323) 753 - 3781  
Fax (323) 753 - 9472

DATE	INVOICE #
9/14/2011	✓ 127598

<b>BILL TO</b>  CA Screw Products Corp P.O. Box 228 Parmount, Ca. 90723	<b>SHIP TO</b>  CA Screw Products Corp 14957 Gwen Chris Ave. Parmount, Ca. 90723
---	--

# Certification

Tri-J Heat Treating  
327 E Commercial St,  
Pomona CA 91767  
Phone: 909-622-9999 Fax: 909-622-1790

Order No.: 22351

Date: 08/12/2011

Entry Date: 08/10/2011

Page: 1

To: CALIFORNIA SCREW PRODUCTS COR  
P.O.Box 228

Purchase Order No.: 114041

Job #: 323300 ✓

Material: 8740 ✓

PARAMOUNT CA 90723

Phone: 562-633-6626

We are pleased to provide you with the following Certification

Quantity	Part Number / Part Name / Part Description	Pounds
6,000	✓AN4-42A REV NA ; NASM3-20 REV 2	400

Heat Treat AMS 2759 / 1 REV E

Harden to specific hardness

Insp. Type	Scale	Minimum	Maximum	Results:	Scale	Minimum	Maximum	Value
Customer Requirements:				Hardness	HRC	28.0	30.0	6.0

## Process Steps

Step: 1 Process: Heat Treat

Treat at 1575 F, Dew point 50, Oil Quench at 130 F.(1 Hr Min)

Step: 2 Process: Temper

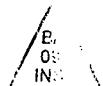
Temper at 1100 F, 1 Hr for each 400 Lbs. MIN 2 HRS

SIKORSKY  
1758  
DOR



MAR 25 2012

MAR 24 2012



ISO 9001:2008 REGISTERED

Gary Madrigal  
QC Manager  
Tri-J Heat Treating

# WireTech, Inc.

6440 E. Canning Street  
Los Angeles, CA 90040  
Phone (323) 722-4933  
Fax (323) 721-2738

SOLD TO

Cal Screw Products  
14957 Gwenchris Ct.  
Paramount, CA 90723  
USA

WORK ORDER  
083494

CERTIFICATION  
HEAT NO.  
10073780  
SALES ORDER / RLS  
839640 / 1  
ISO 9001-2000 REGISTERED



MECHANICAL TESTING  
CERT # 911.01

CERT# 911.01

J/N 323300

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	CARRIERS	LADING NO	SHIPMENT DATE
111282	h1198	2,583 Lbs	2	00090289	06/02/2011

SPECIFICATION C048740-102455A  
A-8740, AQ, SKFG, CHG WIRE, SAIP Zinc Phosphate, Lime & Stearate Coating, Size:0.246/0.246 Specifications:  
AMS2301H, AMS6322N, MIL-S-6049A, AMEND. 1, H1198, AMS-S-6049-A

CERTIFICATION REQUIREMENTS

Chemical Properties

C	Si	Mn	P	S	Cu	Ni	Cr	Mo
.41	.24	.95	.014	.013	.14	.43	.41	.21

Physical Properties

Grain Size	Jominy 1	Jominy 2	Jominy 3	Inclusions	Macro	Cleanliness	Mill Source
6	5=52	8=44	10=37	S2-R1-C2	GOOD	F6S=0	CHARTER SIMORSKY

1758  
DQR

Country of Origin

USA - DFAR Compliant

MAR 25 2012

Mechanical Properties

TEST	UNITS	RESULTS
Tensile Strength	KSI	83.3
Yield Strength	KSI	70.8
% Elongation	%	29
% Reduction of Area	%	71.6
Rockwell Hardness B Scale	HRB (s)	86

83.3  
70.8  
29  
71.6  
86

KMIN 8573  
JOSE ERVANTES  
6-3-2011

IN WIRE 252.225-7014 ALT. 1  
COMPLIANCE

MAR 24 2012

Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, E71-140, inclusion rating per ASTM E 46, decarburization performed as per IFI 140. The reported Chemical and Physical Properties are Mill Source results. Transcribed from mill certificates. HRB(M) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. \*Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.

TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.

\*LATEST REVISIONS OF ASTM

DFAR Material per Clauses 252.225-7014 ALT. 1, 252.225-7009, & 225.003(9)

Material is free of mercury, radium, or alpha contamination.

OYN947 0

5556 09/27/11

AN4-42A

TOTAL O/O: 116 WHSE ONHAND: 77  
MINIMUM: 0 MAXIMUM: 0  
MIAMI BACKORDERS: 116

04/22/11 021401 DSCP FB6043 SPM5A2-11-M-QB78 116 [REDACTED] EA 04/29/11 7R7EP1 (MILITARY/GOVERNMENT)

116 To Jose C

REM STK XFER 338869 09/09/11 1 021863 M & M AEROSPACE HARD 125

Warehouse 2: Parts Falling below a 6 Month Trend Quantity

Part No. Description  
AN4-42A BOLT

Quantity UOM  
1,320 Pcs  
WT-2

PIE 122  
INSP  
MAR 24 2012

BALANCED STOCK

MAR 25 2012

SKORSKY  
1758  
DOR

MANUFACTURERS OF AIRCRAFT FASTENERS AN-MS-NAS  
**CALIFORNIA SCREW PRODUCTS CORP.**

CAGE NUMBER : 14957 GWENCHRIS COURT  
 Airbus UK Approval No. AUK/BA/30144

PARAMOUNT, CALIF. 90723-3423

Job Number : 323300  
 Date/AG/30235 / MA

Part Number : AN4-42A  
 Customer : B/E AEROSPACE CONSUMABLE MANAGEMENT  
 Procurement Spec. : NASM6812 REV. 2  
 Surface Finish Spec. : VMS-QQ-P-416 REV. C  
 Heat Treat Spec : AMS2759/1 REV. B  
 Mngt Permeability : N/A

Part Standard : NASM3-20 REV. 2  
 Cust. Purchase Order Number : 0YN947  
 Thread Size & Form : 750-28 UNF-3A  
 Thread Spec : MEL-B-7742 REV. D  
 Sample Size Spec. : NASM6812 REV. 2

Shipped Quantity\* : 5556  
 Mfg Quantity: 6000  
 Natl Spec: AMS 6322 REV. N  
 Item Description: Bolt  
 Heat Number: 10073780

\* Actual piece count is within +/- 2% of the shown lot quantity.

\* CONFORMS TO REQUIREMENTS OF AMS THRU AMS2 REV. 12  
 NON-DESTRUCTIVE TESTS / SUBCONTRACTED (SEE CERTIFICATION)

Sample Size : 32 specimens  
 Magnetic Particle : ASTM E1444-05

Inspection Results: Accept : 32 Reject : 0 specimens  
 Fluorescent Penet. : N/A

METALLURGICAL EXAMINATION RESULTS

Sample Size : 5 specimens	Accept : 5	Reject : 0	Lab Mount No. : 41324
GRAIN SIZE : N/A	HEAD STRUCTURE : Accept	LAPS : Accept	MICRO STRUCTURE : Accept
FILLET COLD WORKED : Accept	DECARB : Accept	SEAMS : Accept	CARBURIZED : Accept
GRAIN FLOW HEAD : Accept	GRAIN FLOW THREAD : Accept	CRACKS : Accept	THREAD RUN OUT : Accept

MECHANICAL TESTS RESULTS

ULTIMATE TENSILE STRENGTH (lbs.) - Loc. of Failure: Threads  
 Sample Size : 5 specimens Accept : 5 Reject : 0 Minimum Req. : 4080  
 Maximum Req. : 0

1. 5516	2. 5699	3. 5494	4. 5614	5. 5495	6. N/A	7. N/A	8. N/A
9. N/A	10. N/A	11. N/A	12. N/A	13. N/A	14. N/A	15. N/A	16. N/A
17. N/A	18. N/A	19. N/A	20. N/A	21. N/A	22. N/A	23. N/A	24. N/A
25. N/A	26. N/A	27. N/A	28. N/A	29. N/A	30. N/A	31. N/A	32. N/A

SHEAR (lbs.) S/D : SINGLE Sample Size : 5 specimens Accept : 5 Reject : 0 Minimum Req. : 3680

1. 4606	2. 4316	3. 4403	4. 4376	5. 4419	6. N/A	7. N/A	8. N/A
9. N/A	10. N/A	11. N/A	12. N/A	13. N/A	14. N/A	15. N/A	16. N/A
17. N/A	18. N/A	19. N/A	20. N/A	21. N/A	22. N/A	23. N/A	24. N/A
25. N/A	26. N/A	27. N/A	28. N/A	29. N/A	30. N/A	31. N/A	32. N/A

HARDNESS TEST Sample Size : 8 Hardness Req. RC : 26-32 Hardness Results : 28-30

SKORSKY

1758

DOR MAR 25 2012

STRESS RUPTURE TEST - N/A Load (lbs.) : 0 Temperature (F) : 0 Periodic test, RRF Job No.  
 Sample Size : 0 Hours : 0

PATIGUE TEST - N/A Cycles : 0 Min Req. : 0  
 Sample Size : 0 Low Load (lbs.) : 0 High Load (lbs.) : 0

TORQUE TEST - N/A Sample Size : 0 Load (lbs/in) : 0

STRESS DURABILITY TEST - N/A Sample Size : 0 LOAD (lbs.) : 0 Hours: 0

STATEMENT OF CONFORMANCE:

This report relates only to items inspected/tested. Deviations from standard test methods, if any, are noted, and results from subcontracted inspection or testing, if any, are identified. All items were manufactured in the USA under a quality management system, which complies with ISO 9001 and with AS 9100. CALIFORNIA SCREW PRODUCTS CORP, hereby states: That the above product is mercury free; that the above listed lot has been produced, sampled, tested, inspected and marked in accordance with all requirements and that the product complies with all specification and contract requirements; that evidence of which is in the files of our company subject to examination. This report shall not be reproduced except in full, unless authorized in writing by CALIFORNIA SCREW PRODUCTS CORPORATION.

MARIAELENA  
 TORRES

Honeywell Source Accepted:

Stamp Impression \_\_\_\_\_

Date \_\_\_\_\_

SEP 16 2011 RMRA. # \_\_\_\_\_



FINAL INSPECTOR SEP 16 2011  
 (Name, Signature, Stamp and Date)





# CHARTER STEEL

A Division of  
Charter Manufacturing Company, Inc.

EMAIL:

1658 Cold Springs Road  
Saukville, Wisconsin 53080  
(262) 268-2400  
1-800-437-8789  
FAX (262) 268-2570

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

Wiretech Incorporated  
6440 East Canning Street  
Los Angeles, CA-90040  
Kind Attn :Cert To Contact

Customer ID	6513-3
Customer Part #	8740C1A080-C-R
Charter Sales Order #	70011147
Heat #	10073780
Ship Lot #	4026728
Grade	✓ 8740 R SK FG AQ 21/64
Process	HRSA
Finish Spec	21/64

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

### Test Results of Heat Lot# 10073780

Lab Code: 7388	C	MN	P	S	Si	NI	CR	MO	CU	SN	V	
5%WT	.41	.95	.014	.013	.24	.43	.41	.21	.14	.008	.001	
AL	N	B	TI	NB								
.027	.0070	.0001	.002	.002								
JOMINY(HRC)	JOM01 57	JOM02 57	JOM03 56	JOM04 55	JOM05 52	JOM06 51	JOM07 47	JOM08 44	JOM09 39	JOM10 37	JOM11 37	JOM12 38
	JOM13 35	JOM14 34	JOM15 33	JOM16 32	JOM18 31	JOM20 31	JOM22 30	JOM24 29	JOM26 29	JOM28 29	JOM30 29	JOM32 28

JOMINY SAMPLE TYPE ENGLISH = B JOMINY LAB = 0358-01  
MACRO ETCH SURFACE = 1 MACRO ETCH RANDOM = 1 MACRO ETCH CENTER = 1  
AMS 2301 FREQUENCY AVERAGE = .03 AMS 2301 FREQUENCY INDIVIDUAL = .06  
AMS 2301 SEVERITY AVERAGE = .02 AMS 2301 SEVERITY INDIVIDUAL = .03  
CHEM. DEVIATION EXT.-GREEN =

SKOF SKY  
1758  
DOR  
MAR 25 2012

### Test Results of Rolling Lot# 1013807

REDUCTION RATIO = 358:1

	Test Results of Processing Lot# 4026681, 4026728				
	# of Tests	Min Value	Max Value	Mean Value	
TENSILE	2.0	83.9	83.9	83.9	TENSILE LAB = 0358-02
REDUCTION OF AREA	2	63	66	65	RA LAB = 0358-02
ROCKWELL B	2	80	81	81	RB LAB = 0358-02

NUM DECARB = 3 FREE FERRITE DECARB = .000 FREE FERR & PARTIAL DECARB = .001  
CP SPHERO % LAB = 0358-02 NUM SPHERO = 3 SPHERODIZATION = 83.3

Specifications: Manufactured per Charter Steel Quality Manual Rev 9.08-01-00  
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = COP 3010 Revision = M Dated = 12-MAR-03

Additional Comments:

MEETS REQUIREMENTS OF SPECIFICATIONS AMS3229/AMS2301J/MIL-S-8048A

MAR 24 2012

6/12  
INSP

RMX 8573  
Jesse Barnard  
6.3.2011  
DOD MIL-STD-883C  
TESTS COMPLETED  
COMPLIANCE

Charter Steel  
Saukville, WI, USA



Rem: Load1,Fax0,Mail0

Page 1 of 1

Janice Barnard  
Manager of Quality Assurance  
07/15/2010

J/N 323300

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR/ CSSP	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSCM/ CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
•	•	--	Subcontracted test performed by laboratory not in Charter Steel system	

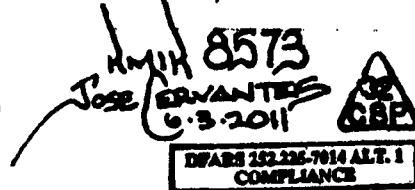
5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSSM, CSCM/CSCR	ASTM E415; ASTM E1019
X-ray Fluorescence Stainless and Alloy Steel	CSCM/CSCR	ASTM E572
Macroetch	CSSM, CSCM/CSCR	ASTM E381
Hardenability (Jominy)	CSSM, CSCM/CSCR	ASTM A255; SAE J406; JIS G0561
Grain Size	CSSM	ASTM E112
Tensile Test	CSSR/CSSP, CSFP, CSCM/CSCR	ASTM E8; ASTM A370
Rockwell Hardness	All labs	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSSR/CSSP, CSFP	ASTM A892
Inclusion Content (Methods A, E)	CSSR/CSSP, CSCM/CSCR	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/11.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



## B/E AEROSPACE

## Detailed Inspection Plan

Part Number: AN4 - 42A		Description: BOLT - MACHINE, AIRCRAFT				Part Number: AN4 - 42A
B/E Ctrl #		2011121040			Caliper: 0639151	
B/E PO #		0YN947			Micrometer: 609	
Receiving date		9/29/2011			Johnson Gage: 22098, 22141	
Supplier		California Screw			Pitch Rolls: Ber046	
Mfg		California Screw			Func/Seg: DKC	
Mfg Lot #		323300			Set Plug: 517	
Mill House		Charter Steel			Mag Indicator: 485	
Heat #		10073780			Optical Comp: 110109	
Supplier Lot Quantity		73				
Sample Size		20 / 11				
Date		3/24/2012				
Customer		Sikorsky Aircraft				
Customer PO						
Seq #	Drawing Revision: NASM 3 Thru NASM20 Rev 2 ✓	Inspection Method	Inspection Results	Acc	Rej	Notes
1	Marking:	Visual	C X S	73	0	
2	Visual	Visual	Conforms	73	0	
3	Residual Mag Check	Mag. Ind.	< 1 Gauss	11	0	
4	Thread T Func Dia 1/4-28 UNF-3A	Johnson Gage	.2253 - .2256	20	0	
5	Thread T Pitch Dia .2243 - .2268	Johnson Gage	.2252 - .2254	20	0	
6	Major Dia .2435 - .2500	Micrometer	.2452 - .2457	20	0	
7	A .246 - .249	Micrometer	.246 - .247	20	0	
8	B .428 - .440	Caliper	.431 - .436	20	0	
9	C .510 (REF)	Caliper	.499 - .501	20	0	
10	D .140 - .172	Caliper	.164 - .167	20	0	
11	E 5/16	N/A	N/A	-	-	
12	F .047/.015	Optical Comparator	.027 - .035	20	0	
13	H .398 Min.	Optical Comparator	.400 - .404	20	0	
14	J .070 +.010/-0	N/A	N/A	-	-	
15	K .046 +.010/-0	N/A	N/A	-	-	
16	Length 4-9/32 (4.2812) + 1/32 / - 1/64	Caliper	4.287 - 4.290	20	0	
17	Grip 3-13/16 (3.8125) ± 1/64	Optical Comparator	3.8109 - 3.8120	20	0	
18	.010 ± .005 Radius	Optical Comparator	.011 - .014 R	20	0	
19	Grip Nom + E Nom ± 1/64	N/A	N/A	-	-	
20	Hole Centerline w/in .010	N/A	N/A	-	-	
21	Hole normal to CL w/in 2°	N/A	N/A	-	-	
22	30° ± 5°	Optical Comparator	29° 58' 30"	20		
23	15° ± 5°	N/A	N/A	-	-	
24	D/2	N/A	N/A	-	-	
25	.016 ± .010	Optical Comparator	.016 - .018	20	0	
26	Marking height or depth	Mold/Optical Comp	.012 - .013	20	0	
27	Material: Non -Corrosion Resistant Steel 8740 Per AMS 6322 ✓	Cert	WireTech Inc Heat #/10073780	73	0	
28	Finish: Cadmium Plate per AMS-QQ-P-416 TYII CL 2	Cert	Southwest Plating Company Cert # 127598	73	0	
29	Proc. Spec: NASM6812 ✓	Cert	California Screw Job # 323300	73	0	
30	Free from burrs/slivers	Visual	Conforms	73	0	
31	Note (6) Dimension are in inches.....	Visual	Conforms	73	0	
32	Ultimate Tensile Strength 4,080	Cert	California Screw Job # 323300	73	0	
33	Yield Strength 3,130	Cert	California Screw Job # 323300	73	0	
34	Single Shear 3,680	Cert	California Screw Job # 323300	73	0	
35	45° ± 5°	Optical Comparator	44° 45' 45"	20	0	DQR
36	Note (7) Dimension apply after finish	Informational	Noted	73	0	MAR 25 2012
Inspector: Woodrow McDowell				73	0	



## B/E AEROSPACE

## Detailed Inspection Plan

Part Number: AN4 - 42A

Part Number: AN4 - 42A		Description: BOLT - MACHINE, AIRCRAFT				Detailed Inspection Plan
Seq #	Drawing Revision: NASM 3 Thru NASM20 Rev 2	Inspection Method	Inspection Results	Acc	Rej	Notes
37	Note (8) This standard takes precedence...	Informational	Noted	73	0	
38	Note (9) Referenced documents shall be...	Informational	Noted	73	0	
39	Note (10) Unless otherwise specified....	Informational	Noted	73	0	
40	Visual For FOD	Visual	Compliant	73	0	
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Inspector: Woodrow McDowell				73	0	
Quality Accept/Reject				73	0	



SAE AS9102 Revision A

**Form 1 : Part Number Accountability**

Sheet 1 of 4

1. Part Number AN4-42A	2. Part Name BOLT - MACHINE, AIRCRAFT	3. Serial Number N/A	4. FAI Report Number Ctrl # 2011I21040
5. Part Revision Level 2	6. Drawing Number NASM3 THRU NASM20	7. Drawing revision level 2	8. Additional Changes N/A
9. Manufacturing Process Reference Lot # 323300	10. Organization Name B/E AEROSPACE	11. Supplier Code 65774	12. P.O. Number & Line Item
13. Detail FAI <input checked="" type="checkbox"/>	14. Full FAI <input checked="" type="checkbox"/> X Partial FAI		
Assembly FAI <input type="checkbox"/>	Baseline Part Number including revision level Reason for partial FAI:		

- a) if above part number is a detail part only, go to Field 19
- b) if above part number is an assembly, go to the "INDEX" section below.

**INDEX of part number or sub-assembly number required to make the assembly noted above.**

1) Signature indicates that all characteristics are accounted for: meet drawing requirements or are properly documented for disposition.

2) Also indicate is the FAI is complete per Section 5.4.1.  AI complete  not Complete

19. Signature : Narennder Verma   20. Date 3/24/2012

**21. Reviewed by**

21. Reviewed by SHUKRASY  
22. Customer Approval 1 / 58

### 23. Customer Approval

— 1 —

DDR MAR 25 2012

**SAE AS9102 Revision A**

**Form 2: Product Accountability - Raw Material, Specification and Special Process (es),  
Functional Testing**

**Sheet 2 of 4**

1. Part Number	2. Part Name	3. Serial Number	4. FAI Report Number		
AN4-42A	BOLT - MACHINE, AIRCRAFT	N/A	Ctrl # 2011I21040		
5. Material or Process Name	6. Specification Number	7. Code	8. Special Process Supplier Code	9. Customer Approval Verification (Yes/No/Na)	10. Certificate of Conformance Number
Material : Alloy Steel 8740.	AMS 6322.	N/A	WireTech, Inc 6440, E. Canning Street, Los Angles, CA 90040	N/A	Heat # 10073780.
Finish: Cadmium Plating	QQ-P-416, Superseded by AMS-QQ-P-416	N/A	SkouthWest Plating Company, LLC, 1344 W. Slauson Ave. Los Angles, CA 90044-2824.	N/A	Cert.Invoice# 127598.
Heat Treat: -	MIL-H-6875 Superseded by AMS 2759. (NASM 6812)	N/A	Tri-J Heat Treating, 327 E Commercial St. Pomona CA 91767	N/A	Job # 323300.
11. Functional Test Procedure Number	12. Acceptance report number, if applicable				
N/A	N/A				
13. Comments	 SIRORSKY 1758 DOR				
14. Prepared By	Narender Verma		15 Date	3/24/2012	

MAR 25 2012

Form 3: Characteristic Accountability, Verification and Compatibility Evaluation								Sheet 3 of 4	
1. Part Number			2. Part Name			3. Serial Number		4. FAI Report	
AN4-42A			BOLT - MACHINE, AIRCRAFT			N/A		Ctrl # 201121040	
Characteristic Accountability			Inspection / Test Results						
5. Char No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designed Tooling	11. Non-Conformance Number	14a. FAI Inspection Measuring Equipment	14b. Production Inspection Measuring Equipment	14c. FAI Inspector Identification
1	Sh.1	Minor	Marking	C X S	N/A	N/A	Visual	Visual	122
2	Sh.1	Minor	Visual	Conforms	N/A	N/A	Visual	Visual	122
3	Sh.1	Minor	Residual Mag Check	< 1 Gauss	N/A	N/A	Mag. Indicator	Mag. Indicator	122
4	Sh.1	Minor	T Functional: (1/4 - 2B UNF-3A) Dia .2243 - .2268	0.2252	N/A	N/A	Johnson Gage	Johnson Gage	122
5	Sh.1	Minor	T Pitch Dia .2243 - .2268	0.2249	N/A	N/A	Johnson Gage	Johnson Gage	122
6	Sh.1	Minor	Major Dia .2435 - .2500	0.246	N/A	N/A	Micrometer	Micrometer	122
7	Sh.1	Minor	A .246 - .249	0.248	N/A	N/A	Micrometer	Micrometer	122
8	Sh.1	Minor	B .428 - .440	0.434	N/A	N/A	Caliper	Caliper	122
9	Sh.1	Minor	(C) .510 REF.	0.495	N/A	N/A	Caliper	Caliper	122
10	Sh.1	Minor	D .140 - .172	0.166	N/A	N/A	Caliper	Caliper	122
11	Sh.1	Minor	(E) 5/16 (.3125)	N/A	N/A	N/A	N/A	N/A	122
12	Sh.1	Minor	F .015 - .047	0.039	N/A	N/A	Opt. Comp.	Opt. Comp.	122
13	Sh.1	Minor	/3/ H .398 Min	0.418	N/A	N/A	Opt. Comp.	Opt. Comp.	122
14	Sh.1	Minor	J .076 +.010/-0.000	N/A	N/A	N/A	N/A	N/A	122
15	Sh.1	Minor	K .046 +.010/-0.000	N/A	N/A	N/A	N/A	N/A	122
16	Sh.1	Minor	Length 4.9/32 (4.28125) +1/32(.03125), -1/64(.0156)	4.2915	N/A	N/A	Caliper	Caliper	122
17	Sh.1	Minor	/2/ Grip: 3-13/16 (3.8125) ± 1/64 (.01562)	3.8117	N/A	N/A	Opt. Comp.	Opt. Comp.	122
18	Sh.1	Minor	.010 ± .005 Radious	.015 R	N/A	N/A	Opt. Comp.	Opt. Comp.	122
19	Sh.1	Minor	Grip + E +/- 1/64	N/A	N/A	N/A	N/A	N/A	122
20	Sh.1	Minor	Hole Centerline w/in .010	N/A	N/A	N/A	N/A	N/A	122
21	Sh.1	Minor	/1/ Hole normal to CL w/in 2 Deg	N/A	N/A	N/A	N/A	N/A	122
22	Sh.1	Minor	30° ± 5° Degrees	29°32'	N/A	N/A	Opt. Comp.	Opt. Comp.	122
23	Sh.1	Minor	15° ± 5° Degrees (Optional)	N/A	N/A	N/A	N/A	N/A	122
24	Sh.1	Minor	D/2	N/A	N/A	N/A	N/A	N/A	122
25	Sh.1	Minor	.016 ± .010	0.017	N/A	N/A	Opt. Comp.	Opt. Comp.	122
26	Sh.2	Minor	Marking may be raised or depressed: .025 inch for 9/16 Dia Bolt & smaller, .030 inch for 5/8 Dia Bolts & larger.	.011 ( Raised)	N/A	N/A	Opt. Comp.	Opt. Comp.	122
27	Sh.1	Minor	Material: 8740 Steel per AMS 6322 (Procurement: NASM6812)	WireTech Inc. Heat # 10073780.	N/A	N/A	Cert	Cert	122
28	Sh.1	Minor	Finish: Cadmium Plating per QQ-P-416 Superceded by AMS-QQ-P-416. (Procurement NASM6812)	Southwest Plating Company, Cert. # 127598.	N/A	N/A	Cert	Cert	122
29	Sh.1	Minor	Proc. Spec: Mil-B-6812 / NASM6812.	California Screw, Job # 323300.	N/A	N/A	Cert	Cert	122
30	Sh.2.	Minor	(5) Bolts free from Burrs etc. & Countersinking of Drilled Holes is optional.	SKORSKY 1758 Noted	N/A	N/A	Informational	Informational	122

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By Narnder Verma

INSP

MAR 25 2012

Date: 3/24/2012

Form 3: Characteristic Accountability, Verification and Compatibility Evaluation								Sheet 4 of 4	
1. Part Number			2. Part Name			3. Serial Number	4. FAI Report		
AN4-42A			BOLT - MACHINE, AIRCRAFT			N/A	Ctrl # 2011I21040		
Characteristic Accountability				Inspection / Test Results					
5. Char No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designed Tooling	11. Non-Conformance Number	14a. FAI Inspection Measuring Equipment	14b. Production Inspection Measuring Equipment	14c. FAI Inspector Identification
31	Sh.3	Minor	(6) Dimensions are in inches. UOS Tolerances: Decimals $\pm .010$ , Angles $\pm 5^\circ$ .	Noted	N/A	N/A	Informational	Informational	122
32	Sh.3	Minor	Ultimate Tensile Strength:2210	California Screw,Job # 323300.	N/A	N/A	Cert	Cert	122
33	Sh.3	Minor	Yield Strength:1690	California Screw,Job # 323300.	N/A	N/A	Cert	Cert	122
34	Sh.3	Minor	Single Shear:2125	California Screw,Job # 323300.	N/A	N/A	Cert	Cert	122
35	Sh.1	Minor	45° $\pm 5^\circ$	45°	N/A	N/A	Opt. Comp.	Opt. Comp.	122
36	Sh.3	Minor	(7) Dimensions apply after Finish UOS.	Noted	N/A	N/A	Informational	Informational	122
37	Sh.3	Minor	(8) This standard takes precedence..	Noted	N/A	N/A	Informational	Informational	122
38	Sh.3	Minor	(9) Referenced documents shall be issue..	Noted	N/A	N/A	Informational	Informational	122
39	Sh.3	Minor	UOS part inventory manufactured to previous Rev...	Noted	N/A	N/A	Informational	Informational	122
40	Sh.1	Minor	Visual for FOD	Conforms	N/A	N/A	Visual	Visual	122
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
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56									
57									
58									
59									
60									
61									
62									

SKODA  
1750

The signature indicates that all characteristics are accounted for, meet drawing requirements or are properly documented for disposition.

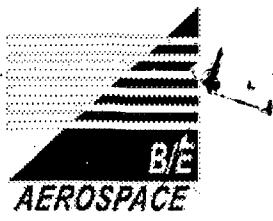
12. Prepared By Naredner Verma

1/15/2012  
MAR 25 2012

Date:

3/24/2012

SAE AS9102 Revision A



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
15	1000	EA	NAS1149D0663J		X5364	ANILLO INDUSTRIES		10630	04/09/14

  
\_\_\_\_\_  
Jason Lewis  
Vice President of Quality

04/09/14

# ANILLO Industries, Inc.

2025 NORTH GLASSELL STREET, ORANGE, CA 92865-3391 USA  
PLEASE REMIT TO  
P.O. BOX 5586 ORANGE, CA 92863-5586 USA  
(714)637-7000 (562)924-6632 FAX(714) 637-3022



# 547828

## Packing List &

## Certification

WE ACCEPT

VISA/MASTER/DISCOVER/AMEX

### SOLD TO

1165

E

B/E AEROSPACE, INC.  
ATTN: ACCOUNTS PAYABLE DEPT.  
P.O. BOX 025263  
  
MIAMI, FL 33102-5263

### SHIP TO

B/E AEROSPACE, INC.  
CONSUMABLES MANAGEMENT  
9835 NW 14TH ST  
  
MIAMI, FL 33172

DATE ORDER REC'D	ORDER NUMBER	INVOICE DATE	SHIPPED VIA	TERMS
12/19/2011	1A1294		FEDXG 033101490	1% 10 DAYS, NET 30
ITEM	ORDERED	SHIPPED	DESCRIPTION	NET WEIGHT

1 337,940 **75,000** NAS1149D0663J  
REV 5 /LOT#X6364 /MIN/MAX /QCR:1,4,6,8,15,16 /AN960JD616  
ECCN: 9A991 Schedule B#: 7616.10.8000 COO: US NLR

We certify that: 1. item number 1 above is manufactured in accordance with the material and processing specifications of this order.  
2. We certify that the material on this order conforms in all respects to the current applicable government and/or manufacturer's specification. Test reports are on file and are available for examination on all Anillo manufactured parts. All claims for errors or shortages must be made within 10 days after receipt of goods.  
No good to be returned without written authorization. All claims for defective material must be filed within 30 days of shipment to receive consideration. We do not assume financial responsibility or liability from the use of products sold, other than the replacement value of the products sold, if claimed within the specified time limit above.

<< R.M.A.# REQUIRED FOR RETURNS >>

## Certification

B/E Aerospace, Inc. - Consumables Management

Self Release

Signature and Stamp:

Date: 07-17-13



BY *Ben Omidwar*

Ben Omidwar, Quality Assurance Manager

FI 4.03.05

## CERTIFIED INSPECTION REPORT

Alcoa Inc.

DAVENPORT WORKS 4879 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.

This test report shall not be reproduced except in full, without the written approval of the Quality Department. No alteration, addition or other change is authorized to be made to this certificate. The recording of false, fictitious, or otherwise fraudulent statements or entries on this certificate by any recipient may be punished as a felony under applicable law.

Per:

*Rob Woodall*Rob Woodall  
Director of Manufacturing Davenport Works*Terrence Thom*Terrence Thom  
Quality Assurance Manager

1400519 Ship Date	0 B.L. No.	Invoice No.	Alcoa No.	Item
2012-07-05	7161511	00000	1000355792-1	DP-55792-1
P.O. No./Govt Contract No.		Customer	Alcoa Item	
TVA100 Lmt: 01		BOEING-TMX G041003529R07		

TX5012

833839

Page 1 of 2

Ship To: THE BOEING COMPANY  
TMX AEROSPACE DIVISION  
12821 CARMENITA ROAD  
UNIT F  
SANTA FE SPRINGS 90670 CA

Item Description  
0.063 IN TK (+.0030 -.0030) X 48.0 IN W (+.046875 -.046875) CAT X 895699-  
7 (N) A/T ALCLAD 2024-T3 COILED SHEET MILL FINISH ~~895699-2~~ AMS-QQ-A-  
250/5 REV A IS 2010 AS9103 D6-82479 REV F  
((MARKED)) LIGHTLY OILED COIL SIZES: ID  
20 IN OD MAX 48 IN MAX GROSS SKID WGT: 7500 LB QUAN TOL +/-  
30 % CQR 0108580 REV 12 CUST REQ 12-01-  
12 \*\*\* W/E 12-07-21 \*\*\*

Num	Package	Ticket	lot	Weight	Quantity	UOM	Inspector Clock Numbers
426473		499411		5671	1	PC	27619 47135

Notes for CQR: 0108580.12

PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF AMS-QQ-A-250/5 ALSO MEETS THE REQUIREMENTS OF QQ-A-250/5F, AMENDMENT 2.  
PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF QQ-A-250/5F, AMENDMENT 2 ALSO MEETS THE REQUIREMENTS OF AM S-QQ-A-250/5.

CQR: 0108580.12 -Specification Limits -----

Impr	Cir	UTS KSI	TYS KSI	EL4D PCT
T3	Long Transv.	Max Min	61.0 40.0	15
Chemical Composition				
Alloy 2024	Max Min	SI	FE	CU MN MG CR ZN TI Each Total Aluminum
		0.50	0.50	4.9 0.9 1.8 0.10 0.25 0.15 0.05 0.15
Chemical Composition				
Liner Alloy 1230	Max Min	CU	MN	MG V ZN TI PE+SI Each Aluminum
		0.10	0.05	0.05 0.05 0.10 0.03 0.70 0.03
				99.30

AN960 JD616

07-12-13  
NA\$1149 D0663J  
XS364

*Dy*

**CERTIFIED INSPECTION REPORT**

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet. This test report shall not be reproduced except in full without the written approval of the Quality Department. No alteration, addition or other change is authorized to be made to this certificate. The recording of false, fictitious, or otherwise fraudulent statements or entries on this certificate by any recipient may be punished as a felony under applicable law.

Per:

*Rob Woodall*

Rob Woodall  
Director of Manufacturing Davenport Works

*Terrence Thom*

Terrence Thom  
Quality Assurance Manager

**Alcoa Inc.**

5  
44

DAVENPORT WORKS 4879 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

Ship Date	B.L. No.	Invoice No.	Alcoa No.	Item
2012-07-05	7161511	00000	1000355792-1	DP-55792-1
<u>P.O. No./Govt Contract No.</u>		Customer	Alcoa Item	
TV8100 Ln#: 01		BOEING-TMX G041003529R07		

Page 2 of 2

CQR: 0108580.12 -Specification Limits (cont.) -----  
Lot: 499411 - Mechanical, Physical, Metallography, Quantometer Results -----

Tmpr	Dir	Test	No ->	UTS	TYS	EL4D
				KSI	KSI	PCT
T3	Long Transv.	2		63	44	17.5
				63.6	43.6	17.8

Cast Number	Chemical - OES	SI	FE	CU	MN	MG	CR	ZN	TI
H9603056	Actuals	0.05	0.14	4.6	0.65	1.5	0.00	0.09	0.03

This material was melted in the United States or a Qualifying Country [REF DFARS 225.872.1(a)]; it was manufactured in the United States

*AN960JD616*

*07-17-13*  
NA\$1149D0663J  
XS364

Signature:  
Title:

*Dey*

# Certification

ANILLO INDUSTRIES, INC.  
2090 North Glassell st.  
Orange, CA. 92865-3391  
(714) 637-9110

*This is to certify that the below listed parts were processed per the applicable specification listed below.*

*Test reports and procedures governing this process are on file and subject to examination.*

## CHEMICAL FILM MIL-DTL-5541

Type	Class	Thickness	Revision
I	3		F

Job Number: **X5364** P/N REV.: **5** Quantity: **100,000** Visual: **Y**

Part Number: **NAS1149 D 0663 J** Adhesion: **N**

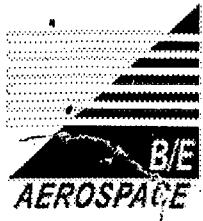
Description: **AN960JD616**

Date: **07/12/13**

Authorized by: **MARIBEL CUEVAS**

Stamp:





# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
[www.beconsumables.com](http://www.beconsumables.com)

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
------	----------	-----	-------------	-----------	------------	--------------	-------	----------	----------

14	250	EA	MS24693-C48		48701	NORTH EAST FASTENERS	07ZNS		
----	-----	----	-------------	--	-------	----------------------	-------	--	--

  
\_\_\_\_\_  
Jason Lewis  
Vice President of Quality

04/09/14

**North East Fasteners Cor**  
 8 Tremco Dr. - P.O. Box 322  
 Terryville, CT 06786  
 Phone: (860)-589-3242  
 Fax: (860) 589-6969  
 Web: <http://www.nef1.com>  
 E-Mail: [nef@nef1.com](mailto:nef@nef1.com)



Invoice	
Date	Invoice No.
09/23/2013	52455

## Packing Slip

**Sold To:** B/E Aerospace Consumables Management  
 10000 NW 15th Terr  
 Miami, Florida 33172

**Ship To:** B/E Aerospace Consumables Management  
 9835 NW 14th St  
 Miami, Florida 33172

<b>Customer:</b>	PO#: 0MZL58	<b>Shipments :</b> 1
<b>Ship Via:</b> Fed Ex Freight Economy	<b>Boxes</b>	<b>Weight</b>

19 675 Lbs

Description	Complete	Lot#	Qty.	Price	Ext. Price
8-32 x 3/8" Phillips Flat 100° Marked With One Dash MS (2A) 302HQ Stainless DFARS Compliant Passivate SAE-AMS2700E Method 1 Type 6 Class 4 - MS24693-C48 - 3	Yes	48701	338.8 M		
<b>Subtotal :</b>					
<b>Shipping :</b>					
<b>Total :</b>					

Made in USA

NEF requires receipt of a Customer Debit Memo prior to issuing any credits. Please reference your P/O #, Invoice # and our RMA # on the Debit Memo.

Government Cage Code: 07ZNS

QSLM Level 2/3

ISO9001:2008 & AS9100



QSLM Level 2/3  
Cage code: 07ZNS



NORTH EAST FASTENERS  
CORPORATION

Telephone:

(860) 589-3242

Fax:

(860) 589-6969

Web-Site: [www.NEF1.com](http://www.NEF1.com)  
E-mail: [nef@NEF1.com](mailto:nef@NEF1.com)

# CERTIFICATE OF CONFORMANCE

*This certifies that these fasteners are in conformance to the specifications required for this order and that these fasteners sold by North East Fasteners Corporation were manufactured at 8 Tremco Dr., Terryville, CT 06786 U.S.A.*

## Customer Order Information

Name : B/E Aerospace Consumables Management

Ship Date: 09/23/2013 NEF Part #: 8320.3750PF1DMSDSSP164

P.O. #: OMZL58-1 Heat #: 8800

Qty Shipped: 338.800 m Lot #: 48701

Descr: 8-32 x 3/8" Phillips Flat 100° Marked With One Dash MS (2A) 302HQ  
Stainless DFARS Compliant Passivate SAE-AMS2700E Method 1 Type 6  
Class 4

DFARS PER: 252.225-7014 ALT 1

## Specifications

IFI		ISO	
Customer Print		DIN	
Metric IFI		JIS	

## Other Specifications

DFARS CERT-252.225-7009

Print # : NASM24693-C48 REV 3

Part # : MS24693-C48 REV 3

Desc :

Dual :

Passed Magnetic Permeability,



Richard L. Allen



\* This product has been mfg. in an environment free from contamination by Mercury or any of its compounds.

AS9100/ISO 9001-2008

QSLM Level 2/3

CAGE Code: 07ZNS

website: [www.NEF1.com](http://www.NEF1.com)



8261 Cornell Road.  
Suite 620  
Cincinnati, OH 45249  
Ph: 800-999-2600  
Fax: 513-755-9603

# TEST CERTIFICATE

Bill To:  
**NORTH EAST FASTENERS CORP.**  
**P.O. BOX 322**  
**TERRYVILLE, CT 06786**

Ship To:  
**NORTH EAST FASTENERS CORP.**  
**8 TREMCO DRIVE**  
**TERRYVILLE, CT 06786**

**Customer PO#:** 072313

**Customer Part #:**

<b>Invoice Date:</b> 7/26/2013	<b>CMC SO:</b> 24235	<b>Ordered:</b> 2,210
<b>Invoice:</b> 18652	<b>Line:</b> 12	<b>Shipped:</b> See Tags
<b>Item:</b> 3021400HQNM.CTD		
<b>Item Desc:</b> .1400 DIA 302HQ SS WIRE X		<b>SPECS</b> ASTM A-493/05, ISO A3506-A2, QQ S-763F, SAE AIR4127
<b>Certification Nbr:</b> RMI/SS/4574		

## MATERIAL TEST RESULTS

**Heat:** 8800

*Chemical Composition %*

	C	MN	P	S	SI	CR	NI	CU	MO	N
Actual:	0.015	0.6980	0.029	0.001	0.488	17.324	9.384	3.094	0.000	0.000

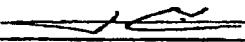
*Mechanical Properties*

<b>Tensile Strength (KSI):</b>	<b>Country of Origin (Melt)</b>	<b>Alt Heat Number</b>	<b>DFAR Compliant (Y/N)</b>
76.84	FRANCE	235016	YES 252.225-7009

**Tag:** 27195      **S:** 24235      **2,210 lb**  
**Total Weight:**      **2,210 lb**

07-24-13 PA

Material Test Results and Specifications are provided to  
Cincinnati Metals Company by the issuing mill.

  
John Cooper, QC

## C E R T I F I C A T I O N

KCM INC.  
400 MIDDLE ST.  
MIDDLETOWN, CT.  
06457

PHONE 860-613-2647  
FAX 860-613-2964

N.E.F.

DATE: 9-18-13

SHOP ORDER NUMBER

DATE REC: 9-16-13

P.O. NUMBER: 18465

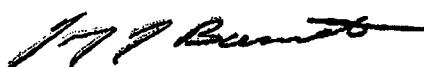
<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>PART NAME/DESCRIPTION</u>
236#	8-32x3/8	7 PANS LOT 48701
		MS24693 C48 3

MATERIAL: S.S.

TREATMENT: CLEAN, PASSIVATE SAE AMS2700E METHOD 1 TYPE 6 CLASS 4

IT IS HEREBY CERTIFIED THAT ALL ARTICLES IN THE QUANTITIES AS CALLED FOR IN YOUR PURCHASE ORDER WERE PROCESSED IN CONFORMANCE WITH REQUIREMENTS, SPECIFICATIONS AND DRAWINGS LISTED ON THAT ORDER.

INSPECTOR



## C E R T I F I C A T I O N

KCM INC.  
400 MIDDLE ST.  
MIDDLETOWN, CT.  
06457

PHONE 860-613-2647  
FAX 860-613-2964

N.E.F.

DATE: 9-23-13

SHOP ORDER NUMBER

DATE REC: 9-18-13

P.O. NUMBER: 18515

<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>PART NAME/DESCRIPTION</u>
188#	8-32X3/8	5 PANS LOT 48701
		MS24693 C48 3

MATERIAL: S.S.

TREATMENT: CLEAN, PASSIVATE SAE AMS2700E METHOD 1 TYPE 6 CLASS 4

IT IS HEREBY CERTIFIED THAT ALL ARTICLES IN THE QUANTITIES AS CALLED FOR IN YOUR PURCHASE ORDER WERE PROCESSED IN CONFORMANCE WITH REQUIREMENTS, SPECIFICATIONS AND DRAWINGS LISTED ON THAT ORDER.

INSPECTOR



## C E R T I F I C A T I O N

KCM INC.  
400 MIDDLE ST.  
MIDDLETOWN, CT.  
06457

PHONE 860-613-2647  
FAX 860-613-2964

N.E.F.

DATE: 9-23-13

SHOP ORDER NUMBER

DATE REC: 9-18-13

P.O. NUMBER: 18495

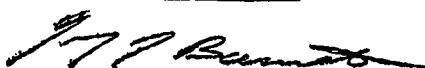
<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>PART NAME/DESCRIPTION</u>
254#	8-32X3/8	7 PANS LOT 48701
		MS24693 C48 3

MATERIAL: S.S.

TREATMENT: CLEAN, PASSIVATE SAE AMS2700E METHOD 1 TYPE 6 CLASS 4

IT IS HEREBY CERTIFIED THAT ALL ARTICLES IN THE QUANTITIES AS CALLED FOR IN YOUR PURCHASE ORDER WERE PROCESSED IN CONFORMANCE WITH REQUIREMENTS, SPECIFICATIONS AND DRAWINGS LISTED ON THAT ORDER.

INSPECTOR





QSLM Level 2/3  
Cage code: 07ZNS5



Telephone:  
(860)-589-3242  
Fax:  
(860)-589-6969  
Website: [www.nefl.com](http://www.nefl.com)  
e-mail: [nef@nefl.com](mailto:nef@nefl.com)

PO Number: 0MZL58-1

Date: 09/16/2013

Lot Number: 48701

Lot Size: 550.00

Heat Number: RX8800

Specs: NASM24693

Description: 8-32 x 3/8" Phillips Flat 100° Marked With One Dash MS (2A) 302HQ Stainless DFARS Compliant  
Passivate SAE-AMS2700E Method 1 Type 6 Class 4

### Axial Tensile Results

Requirements : 1120 Lbs Min

Sample	Ultimate Tensile Strength (Lbs)
1	1471
2	1483
3	1475
4	1482
5	1481
6	1476
7	1477
8	1482

Joe Longo

Quality Control Manager



All tests listed on this certification have been performed in accordance with the required specifications named above. Calibrations are in accordance with ISO10012-1. The analysis reported on this certification is in accordance with North East Fasteners Quality Manual guidelines and methods.



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
[www.beconsumables.com](http://www.beconsumables.com)

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
11	125	EA	MS20615-4M18		251704 P001 F001	AHG ATELIERS HAUTE-G	F0095		

  
Jason Lewis  
Vice President of Quality

04/09/14



# ATELIERS DE LA HAUTE-GARONNE

Ets AURIOL & Cie - S.A. au capital de 201850 EUR - Z.I. de FLORENS BP73103 26 route de Lasbordes - 31130 FLORENS (FRANCE)  
Tél. (33) 5 61 83 60 35 - Fax (33) 5 61 83 95 05 - RCS TOULOUSE B 550 800 528 - SIRET 550 800 528 00014 - APE 2593Z

## PACKING SLIP N° 508973

of 1/09/2011

P/ 1

Supplier number : V1088

DB

Account N°: 3969 Represent.: 08/ MPSI	File N°: UI 10 Coface N° 285101298	Your P.O. nbr.: OAFJ03 Our ack: 251704 of 4/07/2011 Invoice N°: 508973 of 1/09/2011	of 4/07/2011
Shipment to <b>B/E AEROSPACE INC</b> <b>9835 NW 14TH ST</b> <b>(ORIGIN= FRANCE)</b>	<b>Ordered by :</b> <b>B/E AEROSPACE INC</b> <b>P.O. BOX 025263</b>		
33172 <b>ETATS UNIS</b> Tél: 00 1	MIAMI Fax: 001 305 507 7192	33102-5263 <b>ETATS UNIS</b> Tél: 001 305 925 2600	MIAMI Fax: 001 305 507 7191
Pre-carriage by : UPS 409W09 le MARDI si >300 kg UPS SCS p	Number of packaging : 2 Net weight : 22.679 Kg. Gross weight: 26.000 Kg.		

ITEM	ORDERED	PART NUMBER	QTY.SHIP.	SCHEDULED	TO BE DELIV.
1	50.000 Lb. 10048 Pcs**	AIRCRAFT PARTS MS20615-4M18 (3) Monel400/NU30/2.4360 univ.head marked No coating roll sorting NASM20615 ed.3 July 03	50.000 Lb. 9729 Pcs**	16 SEP 2011	Manufactured by AHG - NATO: F0095 - Origin: FRANCE

Technical spec: QQ-N-281 class A rev.D

Lot nb 251704 P 001 F001 Qty.: 50.000 Lb.



# ATELIERS DE LA HAUTE-GARONNE

Ets AURIOL & Cie - S.A. au capital de 201850 EUR - Z.I. de FLOURENS BP73103 26 route de Lasbordes - 31130 FLOURENS (FRANCE)  
Tél. (33) 5 61 83 60 35 - Fax (33) 5 61 83 95 05 - RCS TOULOUSE B 550 800 528 - SIRET 550 800 528 00014 - APE 2593Z

## CERTIFICATE of CONFORMITY and TEST REPORT N° A482704

of 05 JUL 2011

Page 1

ALEX

ACCORDING TO NF L00-15C AND EN10204 TYPE 3.1

Your P.O. nb. : <b>OAFJ03</b>	of : <b>04 JUL 2011</b>	Supplier number : <b>V1088</b>
Nº ack. : <b>251704</b>	of : <b>04 JUL 2011</b>	
Shipment to : (or notify party)		
<b>B/E AEROSPACE INC</b>		
<b>9835 NW 14TH ST</b>		
<b>(ORIGIN= FRANCE)</b>		
<b>33172 MIAMI</b>		
<b>ETATS UNIS</b>		

ITEM	ORDERED	PART NUMBER	SHIPPED							
1	50.000 Lb.	<b>MS20615-4M18 (3)</b> Monel400/NU30/2.4360 univ.head marked cham.optio roll sorting No coating NASM20615 ed.3 July 03						<b>50.000 Lb.</b> 9729 Pcs **		
Technical spec : QQ-N-281 class A rev.D										
Lot nb <b>251704 P001 F001</b> Qty.: <b>50.000 Lb.</b> AHG Wire lot nb.: <b>165175</b> Material heat nb.: <b>68406</b> . NATO Cod : <b>F0095</b> Original lot control N°: <b>192371 P001- F013</b> Manufacture heading date: <b>21 APR 2006</b> Material Producer : <b>DN</b>										
Cis/Shear strength 08-058MO double(D)/simple(S): D Rc/shear strength <b>49.00</b> <b>59.00</b> <b>58.54</b> Unit <b>KSI</b> Test# <b>5</b> D Rc/shear strength <b>49.00</b> <b>59.00</b> <b>56.75</b> D Rc/shear strength <b>49.00</b> <b>59.00</b> <b>55.08</b>										
Erasement/Driveability conforme: O/N O defauts/defects <b>0.00</b> <b>0.00</b> <b>5</b>										
AL 0,00510	C 0,06200	CO 0,00000	CU 33,37000	FE 1,51000	MN 0,92000	NI + CO 63,95000	P 0,00000	PB 0,00000	S 0,00100	SI 0,07000
SN 0,00000	ZN 0,00000	ZN+SN+PB 0,00000							NI BALANCE	

OUR AIRBUS SAS APPROVAL NUMBER IS : 30030 of 31 August 2007  
OUR BAE SYSTEMS APPROVAL LETTER REFERENCE IS : ACO/A/LT/JJH/3035

Parts manufactured by AHG and delivered under this CofC are DFARS compliant per DFAR 252.225-7009

We hereby declare, subject to exceptions, reservations, or concessions listed in this statement of conformity, that the listed supplies comply with the contract requirements and that, after completion of testing and verification, they satisfy in every respect all specified requirements and applicable standards and regulations.

SUPPLIER'S INSPECTION NAME AND FUNCTION ROSE DANIEL (Responsable contrôle) Computer controlled signature	05 JUL 2011	AHG Fr	VISA DGAC Signataire habilité Agrément JAR 21 DGAC FG097	** Estimated quantity
--- TRUE COPY CERTIFICATION ---				



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

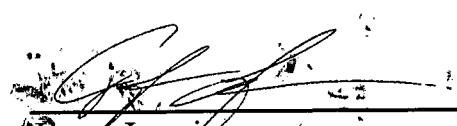
The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

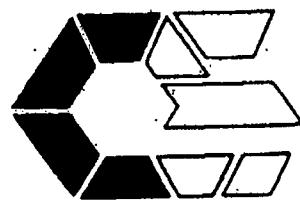
**PURCHASE ORDER#: PO23714**

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
-------	----------	-----	-------------	-----------	------------	--------------	-------	----------	----------

7	50	EA	AN4C20A		314378	CALIFORNIA SCREW PRO	6Z507		
---	----	----	---------	--	--------	----------------------	-------	--	--

  
Jason Lewis  
Vice President of Quality

04/09/14



**CALIFORNIA SCREW PRODUCTS CORP.**  
P.O. BOX 228  
14957 GWENCHRIS COURT  
PARAMOUNT, CALIFORNIA 90723-3423  
(562) 633-6626 • FAX (562) 633-2082

PACKING SLIP

Original: 13696

Sold To:	
004311 M & M AEROSPACE HARDWARE INC. P.O. BOX 025263 MIAMI, FL 33102-5263	

Ship To:	
***** M & M AEROSPACE HARDWARE INC. 10000 N.W. 15th TERRACE MIAMI, FL 33172	

Customer P.O. No.		Sales Order	Date	Ship Via		Job No.
OE0081		26797	03-14-07	FED EX GROUND/WATKIN		314378
Pos	Item	Ordered	Delivered Qty	Unit	Weight	No. of Cartons
*****	*****	*****	*****	*****	*****	*****
20	AN4C20A	9535	9535	ea	320	10

## CALIFORNIA SCREW PRODUCTS CORP.

14957 GWENCHRIS COURT

PARAMOUNT, CALIF. 90723-3423

CAGE NUMBER : 82507

Airbus UK Approval No. AUK/SA/30144

Job Number : 314378

BAE/AG/30235 / MAA

## TEST REPORT

Part Number : AN4C20A  
 Customer : M & M AEROSPACE HARDWARE INC.  
 Procurement Spec. : NASM6812 REV. 2  
 Surface Finish Spec : AMS-QQ-P-35 REV. N/C  
 Heat Treat Spec : AMS2759/5 REV. D  
 Mngntc Permeability : N/A

Part Standard : NASM3-20 REV. 1  
 Cust. Purchase Order Number : OE0081  
 Thread Size & Form : .250-28 UNF-3A  
 Thread Spec : MIL-S-7742 REV. D  
 Sample Size Spec. : NASM6812 REV. 2

Shipped Quantity\* : 9535  
 Mfg Quantity : 25000  
 Material : 431  
 Item Description: Bolt  
 Heat Number : 548173

\* Actual piece count is within +/- 2% of the shown lot quantity.

## NON-DESTRUCTIVE TESTS / SUBCONTRACTED (SEE CERTIFICATION)

Sample Size : 50 specimens Inspection Results: Accept : 50 Reject : 0 specimens  
 Magnetic Particle : ASTM E1444-05 Fluorescent Penet. : N/A

## METALLURGICAL EXAMINATION RESULTS

Sample Size :	5 specimens	Accept :	5	Reject :	0	Lab Mount No.	:	33424
GRAIN SIZE	: 6	HEAD STRUCTURE	: Accept	LAPS	: Accept	MICRO STRUCTURE	:	Accept
FILLET COLD WORKED	: Accept	DECARB	: Accept	SEAMS	: Accept	CARBURIZED	:	Accept
GRAIN FLOW HEAD	: Accept	GRAIN FLOW THREAD	: Accept	CRACKS	: Accept	THREAD RUN OUT	:	Accept

## MECHANICAL TESTS RESULTS

ULTIMATE TENSILE STRENGTH (lbs.) - Loc. of Failure: Threads  
 Sample Size : 5 specimens Accept : 5 Reject : 0 Minimum Req.: 4080  
 Maximum Req.: 0

1.	6250	2.	6330	3.	6300	4.	6290	5.	6220	6.	N/A 7.	N/A 8.	N/A
9.	N/A 10.		N/A 11.		N/A 12.		N/A 13.		N/A 14.		N/A 15.	N/A 16.	N/A
17.	N/A 18.		N/A 19.		N/A 20.		N/A 21.		N/A 22.		N/A 23.	N/A 24.	N/A
25.	N/A 26.		N/A 27.		N/A 28.		N/A 29.		N/A 30.		N/A 31.	N/A 32.	N/A

SHEAR (lbs.) S/D : SINGLE	Sample Size :	5 specimens	Accept :	5	Reject :	0	Minimum Req.:	3680					
1.	4670	2.	4830	3.	4720	4.	4840	5.	4770	6.	N/A 7.	N/A 8.	N/A
9.	N/A 10.		N/A 11.		N/A 12.		N/A 13.		N/A 14.		N/A 15.	N/A 16.	N/A
17.	N/A 18.		N/A 19.		N/A 20.		N/A 21.		N/A 22.		N/A 23.	N/A 24.	N/A
25.	N/A 26.		N/A 27.		N/A 28.		N/A 29.		N/A 30.		N/A 31.	N/A 32.	N/A

HARDNESS TEST - Sample Size : 8 Hardness Req. RC : 26-32 Hardness Results : 28-32

STRESS RUPTURE TEST - N/A Load (Lbs.) : 0 Temperature (F) : 0 | Periodic test, REF Job No. |  
 Sample Size : 0 Hours : 0 | |

FATIGUE TEST - N/A Cycles : 0 Min Req. : 0  
 Sample Size : 0 Low Load (lbs.) : 0 High Load (lbs.) : 0

TORQUE TEST - N/A Sample Size : 0 Load (Lbs/in) : 0

STRESS DURABILITY TEST - N/A Sample Size : 0 LOAD (Lbs.) : 0 Hours: 0

## STATEMENT OF CONFORMANCE:

This report relates only to items inspected/tested. Deviations from standard test methods, if any, are noted, and results from subcontracted inspection or testing, if any, are identified. All items were manufactured in the USA under a quality management system, which complies with ISO 9001 and with AS 9100. CALIFORNIA SCREW PRODUCTS CORP, hereby states: That the above product is mercury free; that the above listed lot has been produced, sampled, tested, inspected and marked in accordance with all requirements and that the product complies with all specification and contract requirements; that evidence of which is in the files of our company subject to examination. This report shall not be reproduced except in full, unless authorized in writing by CALIFORNIA SCREW PRODUCTS CORPORATION.

MARIAELENA  
TORRES

*Maria Elena Torres*  
14  
FINAL INSPECTOR  
(Name, Signature, Stamp and Date)

**CERTIFICATE OF TESTS**  
CERT SERIAL# 000545856



Carpenter Technology Corporation  
101 West Bern Street, Reading, Pa. 19601  
Tel: (610) 208-2000 (800) 338-4592

**ABNAHMEPRUEFZEUGNIS**

**CERTIFICAT DE CONTROLE**

- THE RECORDING OF FALSE, FICTICIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

07/31/06

CUSTOMER/BESTELLER/CLIENT

SELLER/VERKAUFER/VENDEUR PAGE 1 OF 2

CALIFORNIA SCREW PRODUCTS CORP  
PO BOX 228  
PARAMOUNT , CA 90723

CARPENTER TECHNOLOGY CORP

101 W. BERN STREET  
READING , PA 19601

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
54953	LOS008101 L30595	07/31/06	1898.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE :

548173

PRODUCT DESCRIPTION: TYPE 431 ANNEALED SEAM FREE CF WIRE FOR HEADING CL N2  
HVY CU/MOLY/SOAP

SPECIFICATION: ASTM-A493/95(2004) (TYPE 431) LIGHTLY DRAFTED  
HI SHEAR/115 REV J {12/02/93}

AMS 5628/ REV F (01/02)

MIL-S-18732D "CAP OF" MOD NICKEL NOTICE 1 (03/19/91)

SIZE 0.245000/ IN. ( 6.22 MM) RD WIRE

PRIMARY HEAT CHEMISTRY(WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN (XRF)	SI (XRF)	P (XRF)	S (COM)	CR (XRF)
0.16	0.61	0.45	0.019	0.002	15.83
NI (XRF)	MO (XRF)	CU (XRF)	N (FUS)		
1.60	0.11	0.11	0.05		

CAPABLE OF PASSING BEND TEST.

THE CHEMICAL ANALYSIS OF THIS HEAT HAS BEEN PERFORMED BY THE CARPENTER SPECIALTY ALLOYS CHEMICAL LABORATORY, (CODE NUMBER PRI 100004), WHICH WAS ACCREDITED TO THE ISO/IEC 17025 (EXPIRATION DATE OCTOBER 31, 2006).

DISCS MACROETCHED AND APPROVED

TENSILE AS SHIPPED, KSI(MPA) 118.0( 814)

MAX QUENCH HARDNESS, HRC - 50 - 1875 F( 1024 C) 30 MN OIL TREAT  
MAGNETIC PARTICLE: FREQUENCY = 0 / SEVERITY = 0

\*TENSILE AS SHIPPED, KSI(MPA) 116.0( 800) 118.0( 814) 118.0( 814)

\*TENSILE'S REFERRED TO CUSTOMER AND ACCEPTED.

KMIK 7533  
José CERVANTES  
8-1-2006 GSP

CONTINUED ON NEXT PAGE

**GERTIFICATE OF TESTS**  
CERT SERIAL# 000545856

**ABNAHMEPRUEFZEUGNIS**

**CERTIFICAT DE CONTROLE**



Carpenter Technology Corporation  
101 West Bern Street, Reading, Pa. 19601  
Tel: (610) 208-2000 (800) 338-4592

07/31/06

CUSTOMER/BESTELLER/CLIENT

CALIFORNIA SCREW PRODUCTS CORP  
PO BOX 228  
PARAMOUNT , CA 90723

SELLER/VERKAUFER/VENDEUR PAGE 2 OF 2

CARPENTER TECHNOLOGY CORP

101 W. BERN STREET  
READING , PA 19601

- THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
54953	LOS008101 L30595	07/31/06	1898.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE :

548173

**CAPABILITY**

1875 F{ 1024 C}, 01 HR 30 MN OIL TREAT  
1175 F{ 635 C}, 03 HR AIR COOL

MICROSTRUCTURE - FERRITE - NONE

GRAIN SIZE PER ASTM E112: 10

RETAINED AUSTENITE - NONE

**CAPABILITY**

1875 F{ 1024 C}, 01 HR OIL TREAT  
-100 F{ -73 C}, 02 HR  
WARM TO ROOM TEMP  
550 F{ 288 C}, 02 HR AIR COOL  
550 F{ 288 C}, 02 HR AIR COOL

(T)RANSVERSE (L)ONGITUDINAL  
YIELD STRENGTH, (0.20 %) KSI(MPA) L 156.0{ 1076  
TENSILE STRENGTH, KSI(MPA) 218.0{ 1503  
ELONGATION IN 2.00", % 16.0  
REDUCTION OF AREA, % 57.0

MATERIAL PRODUCED ON THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A.  
MATERIAL SUPPLIED COMPLIES WITH THE REQUIREMENTS OF DFARS 252.225.7014  
(JUNE 2005) ALT. 1 AND SUBSECTION 225.872.1.

CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF SEPTEMBER 2, 2004 TO  
THE REQUIREMENTS OF ISO 9001:2000 APPROVAL CERTIFICATE 04-0540 BY PERFORMANCE  
REVIEW INSTITUTE. CERTIFICATE OF TEST IS PREPARED IN ACCORDANCE WITH PARAGRAPH  
3.1 OF EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE  
IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS.

HEIDI L. SUNDAY  
MET RELEASE/REQUIREMENTS ANALYST  
CARPENTER TECHNOLOGY CORPORATION

KMIK 7533

JOSE CERVANTES  
8-1-2006 GSP

Heidi L. Sunday



10643 S. NORWALK BL.  
SANTA FE SPRINGS  
CALIFORNIA 90670  
562-944-8808  
800-622-6624  
FAX 562-944-1499

# CERTIFICATION

CERTIFICATION NUMBER  
469973

CALIFORNIA SCREW PARAMOUNT  
14957 GWENCHRIS AVE  
PARAMOUNT, CA 90723-3423

S H P T  
CALIFORNIA SCREW PARAMOUNT  
14957 GWENCHRIS AVE  
PARAMOUNT, CA 90723-3423

CUSTOMER NUMBER 0063100	DATE RECEIVED 10/19/06	CUSTOMER P.O. NUMBER 64300	CUSTOMER SHIPPER
QUANTITY 25200	WEIGHT 850	PART NUMBER/DESCRIPTION AN4C20A REV. N/A J/N 314378 P/S NASM3-20 REV. 1 H/T PER P. O.	10 PANS

ATERIAL 431 S/S	HARDNESS 27-32 HRC	MAX-CROSS SECTION .250	CASE DEPTH	CORE HARDNESS
PECIFICATIONS	AMS 2759/5 D			

PROCESS	SPEC TEMP	SPEC TIME	EQUIP.	ACT TEMP	TIME IN	TIME AT-HEAT	TIME OUT	ATMOS DEWPT	Q-MED & TEMP	DATE
RACK			RACK		.08	Y				10/27
PREHEAT	1400	:30	V9	1400	05:35	06:25	06:55	VAC	RAISE	10/27
AUSTENITIE	1875	2:00	V9	1875	06:55	07:25	09:25	VAC	OIL	10/27
SUBZERO	-100	2:00	CB1	-100	12:50	13:10	15:10	NIT	A/W	10/27
TEMPER	1125	4:00	D14	1125	22:44	23:30	03:30	AIR	A/C	10/27
TEST RESULTS: 36 HRC					LAB#:373/00367	TEST:1	ACCT:12600	REJT:0		
TEMPER	1125	4:00	D16	1125	07:50	09:30	13:30	AIR	A/C	10/28
LOAD: 02			RACK		.08	Y				10/28
RACK			RACK		.08	Y				10/28
PREHEAT	1400	:30	V9	1400	08:00	08:45	09:15	VAC	RAISE	10/30
AUSTENITIE	1875	2:00	V9	1875	09:15	09:50	11:50	VAC	OIL	10/30
SUBZERO	-100	2:00	CB1	-100	13:03	13:20	15:20	NIT	A/W	10/30
TEMPER	1125	4:00	D16	1125	21:05	21:30	01:30	AIR	A/C	10/30
TEST RESULTS: 31-32 HRC					LAB#:365/00367	TEST:2	ACCT:12600	REJT:0		
TEMPER	1125	4:00	D14	1125	18:16	19:00	23:00	AIR	A/C	10/31

LOAD 01 HARDNESS:29-31 HRC QTY TESTED:8 QTY ACCT:12600 QTY REJT: 0 LOAD  
02 HARDNESS:27-29 HRC QTY TESTED:8 QTY ACCT:12600 QTY REJT: 0

SPECTOR DATE  
RANDALL THOMAS 11/02/06 KEN NELSON for DON LOWMAN

  
QUALITY MANAGER

This Process Certification covers thermal processing and/or hardness testing only. No particular mechanical properties of any material should be assumed, or are plied, as a result of the thermal processing and/or hardness testing of this Process Certification.

ALL FURNACES CERTIFIED TO MEET THE REQUIREMENTS OF AMS-H-6875, CURRENT REVISION. HARDNESS TESTING PERFORMED TO THE LATEST EDITION OF ASTM E 384, ASTM E 10, ASTM E 110, ASTM E 18, ASTM E 140 AND ASTM A 370.

474388

The logo for ACTIVE MAGNETIC INSPECTION, INC. is a black and white graphic. It features the word "ACTIVE" in a bold, sans-serif font, with a lightning bolt graphic integrated into the letter "A". Below "ACTIVE", the words "MAGNETIC" and "INSPECTION, INC." are stacked in a smaller, bold, sans-serif font. To the left of the text, there is a graphic of a magnet with a lightning bolt passing through it, and another lightning bolt graphic extending from the top of the "A" in "ACTIVE".

9356½ San Fernando Road, Unit B • Sun Valley, CA 91352  
(818) 504-0677 • FAX (818) 504-1559

**SOLD TO: CALIFORNIA SCREW PRODUCTS  
14957 GWENCHRIS AVE P.O. BOX 228  
PARAMOUNT, CA 90723  
(562) 633-6626**

**TERMS:** net 30

**STERILIZATION / HEAT TREAT / STATUS OF PARTS**

3421/51104

www.162.com

ASSIVATE MIL-STD-753C METHOD 1017AHS-201B-35 REV N/C/TW

ther RUST PROOF

AGNETIC SPECIFICATIONS ASTM-F-1444-05

Acceptance Criteria NASM6812 REV 2

Accepted: 50 Rejected: 0

### **Season Rejected**

## FLUORESCENT PENETRANT SPECIFICATIONS

### Acceptance Criteria

asch Rejected

QC MRG/NDT LEVEL III: DENNIS B. BRANNON

**s** test certification shall not be reproduced except in full. This certification shall not be used by the customer to im product endorsement by any agency of the U.S. government. Active Magnetic Inspection certifies that the duct shipped on the above certification were processed, inspected & tested in compliance with all applicable its & specifications. All supporting documentation is on file at Active Magnetic Inspection.

**CERTIFICATION/TEST REPORT COPY**



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
[www.beconsumables.com](http://www.beconsumables.com)

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURE	CCODE	MPR DATE	EXP DATE
13	200	EA	MS21069L3		5378241-000	ALCOA ROSAN 800 STAT	66776		

  
Jason Lewis  
Vice President of Quality

04/09/14

**Alcoa  
Fastening  
Systems****Packing Slip**

Packing Slip: 9948076869

Page: 1

Bill To: 5574  
B/E AEROSPACE, INC.  
P.O.BOX 025263  
MIAMI FL 33102-5263  
USA

Ship To: (14)  
B/E AEROSPACE CONSUM MGMT  
9835 NW 14TH ST  
MIAMI FL 33172  
USA

From:  
**ALCOA FASTENING SYSTEMS**  
**AEROSPACE PRODUCTS**  
**FULLERTON OPERATIONS**  
**800 SOUTH STATE COLLEGE**  
**FULLERTON CA 92831**  
USA

Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
11/25/13	F437896	0JRA52			

Line/Rel Item      /M      Qty Order Qty To Pack  
3-1 BA0650      182.000      4508  
MK1000-3

C/I: MS21069L3      Rev. (      Cust Date: 08/19/13  
PO Item #: 3      Key Date: 08/12/13  
\*\*\* TSO C-148 APPVD PART. TSO LABEL REQ'D \*\*\*  
SLIP  
Lot: 5378241-000      COO: UNITED STATES  
Waybill:      ECCN: 9A991      Schedule-B Number: 7318.16.0000  
HTS-Code: 7318.16.0085

The export classification appears above. You are  
responsible for all related export license  
requirements.

MFG C OF C CHEM &amp; PHYS TEST REPORT REQ

SHIP VIA : FED EX GRD  
BUYER: CRISTINA SANCHEZ      PHONE:  
MATERIAL COMPLIES WITH DFARS 252.225-700  
9 PREFERENCE FOR DOMESTIC SPECIALTY

ALCOA GLOBAL FASTENERS, INC.

Kaynar Products: Cage Code 15653   •   Eagle Products: Cage Code 66776   •   Rosan Products: Cage code 66776

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. THE SELLER'S MANUFACTURING LOT IDENTIFICATION NUMBER AND RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER MUST ACCOMPANY ALL RETURNS. ANY CLAIM BASED ON AN ALLEGED DISCREPANCY IN QUANTITY, QUALITY, ETC. BETWEEN THE GOODS ACTUALLY SHIPPED AND/OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON. FOR ITEMS CERTIFIED TO BPS-N-70, ALLOY VERIFICATION HAS BEEN PERFORMED ON PARTS WITH A DATE OF MANUFACTURE ON OR AFTER JANUARY 1, 2001. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CUSTOMER'S COPY

**Alcoa  
Fastening  
Systems****Packing Slip**

Packing Slip: 9948076869

Page: 2

Bill To: 5574  
B/E AEROSPACE, INC.  
P.O.BOX 025263  
MIAMI FL 33102-5263  
USA

Ship To: (14)  
B/E AEROSPACE CONSUM MGMT  
9835 NW 14TH ST  
MIAMI FL 33172  
USA

From:  
**ALCOA FASTENING SYSTEMS**  
**AEROSPACE PRODUCTS**  
**FULLERTON OPERATIONS**  
**800 SOUTH STATE COLLEGE**  
**FULLERTON CA 92831**  
USA

## Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
11/25/13	F437896	0JRA52			

Line/Rel Item  
-----  
METALS" WITH THIS ALTERNATE  
\*\*\*SHIP VIA FEDX GRD COLLECT ACCT# 0331-  
0149-0 IF 150 LBS OR MORE:SHIP FED  
EX FREIGHT ECONOMY COLLECT ACCT# 018751  
\*\*\*  
DO NOT SHIP BY ANY OTHER WITHOUT PROPER  
WRITTEN AUTHORIZATION.  
ALLOWABLE SHIPPING TOLERANCE = +0% -0 %.  
\*\* BAR CODE PER QAP 33 CLAUSE P REQUIRED  
\*\*\*  
\*\* QAP 33.0 REV F CLAUSES: A,B,C,E,H,P,U  
,V. CLAUSE A.3 GENERAL TERMS  
APPLIES.  
PER PO CHANGE NOTICE OK TO SHIP 66,000 I  
N JANUARY 2013 VB  
4/26/13 UPDATED TO SHIP 17,800 PCS BY 04  
/30/13 PER JESSICA. AA  
chem & phys certs

# PACKING SLIP

ALCOA GLOBAL FASTENERS, INC.

Kaynar Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

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CUSTOMER'S COPY

**Alcoa  
Fastening  
Systems**



Packing Slip



Packing Slip: 9948076869

Page: 1

Bill To: 5574  
B/E AEROSPACE, INC.  
P.O. BOX 025263  
MIAMI FL 33102-5263  
USA

Ship To: (14)  
B/E AEROSPACE CONSUM MGMT  
9835 NW 14TH ST  
MIAMI FL 33172  
USA

From:  
ALCOA FASTENING SYSTEMS  
AEROSPACE PRODUCTS  
FULLERTON OPERATIONS  
800 SOUTH STATE COLLEGE  
FULLERTON CA 92831  
USA

Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
11/25/13	F437896	0JRA52			

Line/Rel	Item	QTY	Ordered	QTY to pack	QTY
3-1	B69650 MK1000-3	1	482	200	500

C/I: MS21069L3 *Rev. 1*

PO Item #: 3

\*\*\* TSO C-148 APPVD PART. TSO LABEL REQ'D \*\*\*

Cust Date: 08/19/13

Key Date: 08/12/13

Lot: 5378241-000 COO: UNITED STATES

ECCN: 9A991 Schedule-B Number: 7318.16.0000

Waybill: \_\_\_\_\_

HTS-Code: 7318.16.0085

The export classification appears above. You are  
responsible for all related export license  
requirements.

MFG C OF C CHEM & PHYS TEST REPORT REQ

SHIP VIA : FED EX GRD

BUYER: CRISTINA SANCHEZ PHONE:

MATERIAL COMPLIES WITH DFARS 252.225-700

9 PREFERENCE FOR DOMESTIC SPECIALTY

**CERTIFICATE OF CONFORMANCE**

This is to certify that all items noted above were produced in conformance with the contract, drawing specifications, and other applicable documents. All required process certifications, chemicals and physical test reports are on file subject to examination. This document must not be reproduced except in full and relates only to the items tested.

*Michele M. Varela*  
MICHELE M. VARELA  
Quality Manager  
Fullerton Operations

ALCOA GLOBAL FASTENERS, INC.

Keynar Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776  
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**CUSTOMER'S COPY**



**Alcoa**  
**Fastening**   
**Systems**  
Aerospace Products  
Fullerton Operations  
800 S.STATE COLLEGE BLVD  
FULLERTON, CA 92831

# TEST REPORT

NO. 8193456 Page 1 of 3  
Lot No. 5378241-000

Supplier Item No. <b>BA0650</b>		Supplier Part No. <b>MK1000-3</b>							
Interchange Part No. <b>MK1000-3 Rev. N/C</b>		Interchange Part No. <b>MS21069L3 Rev. 1</b>				Interchange Part No.			
Manufactured Quantity <b>36863</b>	Mfg. Date	Generic Description <b>NUT ANCHOR</b>				Thread Size <b>.1900-32</b>			
HEAT TREAT <b>AMS-H-6875 REV. B</b>		Plating <b>AMS-QQ-P416C TYII CL III</b>							
Lubrication <b>ASS272E TY I</b>		NON-DESTRUCT <b>ASTM E1444 REV. 12 SAMPLE</b>							
PERFORMANCE <b>NASM25027 REV. 1</b>									
Material Spec. # <b>1</b>	Mill Heat No. <b>109663</b>	Control Heat No. <b>CC17990A</b>	Material Supplier <b>CALSTRIP INDUSTRIES INC</b>						
	Special Process Requirements: <b>THREADS AND GAUGING PER AS8879 Rev.DR12</b> <b>and ASME B1.3M SYS. 22</b> <b>MIN EQUALS BKWY MAX EQUALS INST</b>								

## TEST RESULTS

TEST No. Description	UOM	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
1 - 010 TORQUE TEST MAX 18, MIN 2, CYCLES 1,7,15	IN#	1	1	12.25	13.35		2.00	18.00
			7	8.85	8.70			
			15	8.05	8.05			
		2	1	13.30	13.65			
			7	8.30	8.45			
			15	6.90	7.30			
		3	1	15.70	16.70			
			7	10.30	11.20			
			15	7.80	8.05			
		4	1	12.75	13.20			
			7	8.80	9.15			
			15	8.95	8.45			
		5	1	11.45	13.25			
			7	9.35	9.15			
			15	8.55	8.15			
		6	1	11.75	13.05			
			7	9.40	9.45			
			15	8.20	8.25			
		7	1	10.95	12.95			
			7	9.10	9.45			
			15	8.20	7.90			
		8	1	10.40	11.55			
			7	7.60	8.15			

TEST RESULTS - Continued on next page

**THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL AND RELATED ONLY TO THE ITEM TESTED**

The product identified on this Certificate has been manufactured, tested and unless otherwise noted, conforms in all respects to the applicable drawings, specifications and standards. Complete reports of physical and chemical tests are on file for examination. If no specified customer quality level is required, goods conform to sellers quality level. All Damages Exceeding Price are Excluded. For items certified to BPS-N-70 alloy verification has been performed on parts with a date of manufacturing on or after January 1, 2001. Quality system sampling plan conforms to the requirement of QAP EQ001, QAP EQ002, QAP EQ003. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

  
**MICHELE M. VARELA, QA MGR.**

**Alcoa**  
**Fastening** • **ALCOA**  
**Systems**  
Aerospace Products  
Fullerton Operations  
800 S.STATE COLLEGE BLVD  
FULLERTON, CA 92831

# TEST REPORT

NO. **8193456** Page 2 of 3  
Lot No. **5378241-000**

Supplier Item No.  
**BA0650**

Supplier Part No.  
**MK1000-3**

## TEST RESULTS - Continued from previous page.

TEST No. Description	UOM	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
3 - 020 TENSILE TEST MIN. 2460 LBS.	LBS	9	15	7.65	7.25			
			1	9.10	10.60			
			7	8.05	7.95			
			15	7.45	7.85			
			10	13.40	14.05			
		10	1	9.80	9.55			
			7	8.45	8.65			
			15					
			1	3850.00			2460.00	
			2	2600.00				
4 - 050 EMBRITTLEMENT 23 HOURS	HRS	10	1	2600.00				
			2	2600.00				
			3	2600.00				
			4	2600.00				
			5	2600.00				
		10	6	2600.00				
			7	2600.00				
			8	2600.00				
			9	2600.00				
			10	2600.00				
5 - 080 PUSH-OUT MTN. 100 LBS.	LBS	10	1	100.00				
			2	100.00			100.00	
			3	100.00				
			4	100.00				
			5	100.00				
		10	6	100.00				
			7	100.00				
			8	100.00				
			9	100.00				
			10	100.00				
6 - 110 HARDNESS 46-42 HRC	HRC	1	1	42.00	43.00			
			1	(81.50)	(82.00)			
10 - 113 Hardness	-	1	1					

## TEST RESULTS - Continued on next page.

**THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL AND RELATED ONLY TO THE ITEMS TESTED.**

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MICHELE M. VARELA, QA MGR.

Rev. 12/02 Form 11190

**Alcoa**  
**Fastening**  
**Systems**  
  
**Aerospace Products**  
**Fullerton Operations**  
**800 S.STATE COLLEGE BLVD**  
**FULLERTON, CA 92831**

# TEST REPORT

NO. 8193456 Page 3 of 3  
 Lot No. 5378241-000

Supplier Item No. BA0650 Supplier Part No. MK1000-3

## TEST RESULTS - Continued from previous page

TEST No. Description		UOM	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement		
(HR15N)											
Component #	Lot Number	Supplier Part No. 90411-3B				Supplier Item No. HAE660					
1 5379323-000											
Manufactured Quantity		Mfg. Date		Generic Description				Thread Size			
Material Spec. #	1	Mill Heat No.		Control Heat No.		Material Supplier CALSTRIP INDUSTRIES INC					
AMS 5085-G		109663		CC17990A							
Component #	Lot Number	Supplier Part No. 2 5704752-000				Supplier Item No. 082928					
								Thread Size			
Manufactured Quantity		Mfg. Date		Generic Description							
		03/27/12									
Material Spec. #	1	Mill Heat No.		Control Heat No.		Material Supplier CALSTRIP INDUSTRIES INC					
AMS 5085-G		109663		CC17990A							

This document shall not be reproduced, except in full, without the written approval of AFS.

**THIS REPORT MUST NOT BE PROBABLY EXCEPT IN THE AND REMAINING ONE MONTHS TESTED**

The product identified on this Certificate has been manufactured, tested and unless otherwise noted, conforms in all respects to the applicable drawings, specifications and standards. Complete reports of physical and chemical tests are on file for examination. If no specified customer quality level is required, goods conform to sellers quality level. All Damages Exceeding Price are Excluded. For items certified to BPS-N-70 alloy verification has been performed on parts with a date of manufacturing on or after January 1, 2001. Quality system sampling plan conforms to the requirement of QAP EQ001, QAP EQ002, QAP EQ003. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.



MICHELE M. VARELA, QA MGR.

## CERTIFIED TEST REPORT



**Calstrip Steel Corporation**

REGISTERED ISO 9001:2000

7140 Bandini Blvd. • Los Angeles, CA 90040-3388  
(323)726-1345 • Fax (323)722-8269

<b>Customer:</b> ALCOA FASTENING SYSTEMS <b>Address:</b> P.O. BOX 1186 PITTSBURGH, PA 15230	<b>Order Number:</b> S70681 / W86508 <b>Customer PO:</b> 220558025 <b>Shipped Date:</b> 02/22/2012 <b>Packlist ID:</b> 118414
<b>Part ID:</b> 082995-CS <b>Description:</b> CR1050 .035 X 8.250 X COIL <b>Drawing #:</b> 082995 <b>Rev #:</b>	<b>Material Spec:</b> AMS 5085G, ASTM A827-02, MS 100 REV.7

HeatID: 109663

### CHEMICAL ANALYSIS

CC17990A

C	Mn	P	S	Si	Ni	Cr	Cu	Mo	Resi
0.5300	0.6100	0.0100	0.0040	0.2150	0.0410	0.0680	0.0940	0.0160	
W	V	Sn	Ti	Al	Ca	Zr	Co	N	B
	0.0010	0.0140	0.0040	0.0330				0.0090	0.0005

### MECHANICAL AND PHYSICAL PROPERTIES

Yield	Tensile	Elong %	Hardness	Bend Test
			HRB 78	OK

Skid Numbers	# of Coils	Weight
W86508-1	1	1.510
W86508-2	1	1.548
	2	3.058

Grain Size	Olsen Test	Spher%	Decarb	Reduct %
8		100	0	

Comment: SOURCE- NUCOR (USA)

2-24-12 K424

All work on this order has been performed in accordance with the Company's Quality Assurance Manual

  
MARIO VARGAS / Technical Services

Form #:

Print Date: 2/22/2012

0F-0261 09/18/2007

10963

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DECODED: 00000000000000000000000000000000

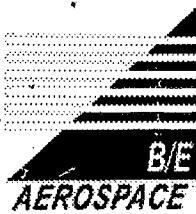
LETTER AND NUMBER IN THE USE  
NAME IS CORRECT AS PRINTED IN THE RECORDS OF THE CORPORATION

NUMBER QUALITY ASSURANCE

773-5

HEMIMERICIAL TESTING-ORIGIN

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# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
9	200	EA	CR3213-4-05		87420050	CHERRY AEROSPACE SAN 11815			

  
Jason Lewis  
Vice President of Quality

04/09/14



**CHERRY®**  
**AEROSPACE**  
SPS Fastener Division, a PCC company

Cherry Aerospace  
1224 East Warner Avenue  
Post Office Box 2157  
Santa Ana, CA 92707-0157  
USA

# PACKING LIST

Order No: SO321684  
Order Date: 04/29/08  
Print Date: 12/03/10

Page: 1

Sold-To: 10015341

S	B/E AEROSPACE
O	PO BOX 025263
L	MIAMI, FL 33102-5263
D	USA
T	
O	

S	B/E AEROSPACE INC C.M.
H	10000 N.W. 15TH TERRACE
I	MIAMI, FL 33172
P	USA
T	
O	

Ship-To: 19000244

Salesperson (s): 110

Credit Terms: Net 30  
Net 30

Purchase Order: 0EZ593

Ship Via: FEDEX FREIGHT

FOB: Origin - Collect

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0  
IF OVER 150# SHIP FED EX NATIONAL ACCOUNT# 018757 - DO NOT INSURE  
DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS  
DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.

\*\*\*\*\*  
BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3  
AIRBUS APPROVAL# 30114

\*\*\*\*\*  
GOODS OF UNITED STATES ORIGIN

\*\*\*\*\*  
FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010  
TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

**TEST REPORTS ENCLOSED**

**DO NOT DESTROY**

Ln	Item Number	Site T Location/Lot/Serial	Qty Open Qty to Ship	UM	Promised Shipped
5	CR3213-4-05 Customer Item: S2906-4-5 NAS9301BNS-4-05 NAS9301B-4-05 M7885/2-4-05 * IF APPLICABLE, PART MEETS DFARS CLAUSE 252.225-7014 ALT 1 * PREFERENCE FOR DOMESTIC SPECIALTY METALS	1600 A0806 87324747 E0806 87421595 EZLINE-3 87420050 J0607 87420051	8245.0 32720.0 8588.0 32817.0	EA	01/16/11 ( ) ( ) ( ) ( )

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited

Packing List



**CHERRY®**  
**AEROSPACE**  
SPS Fastener Division, a PCC Company

Cherry Aerospace  
1224 East Warner Avenue  
Post Office Box 2157  
Santa Ana, CA 92707-0157  
USA

## PACKING LIST

Order No: SO321684  
Order Date: 04/29/08  
Print Date: 12/03/10

Page: 2

Sold-To: 10015341

S  
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B/E AEROSPACE  
PO BOX 025263  
MIAMI, FL 33102-5263  
USA

Ship-To: 19000244

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B/E AEROSPACE INC C.M.  
10000 N.W. 15TH TERRACE  
MIAMI, FL 33172  
USA

Ln	Item Number	Site T Location Lot/Serial	Qty Open Qty to Ship	UM	Promised Shipped
5		00503 87426489	33131.0	( )	

**TEST REPORTS ENCLOSED  
DO NOT DESTROY**

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited



**CHERRY®**  
AEROSPACE  
SPS Fastener Division, a PCC Company

Cherry Aerospace  
1224 East Warner Avenue  
Post Office Box 2157  
Santa Ana, CA 92707-0157  
USA



# PACKING LIST

Order No: SO321684  
Order Date: 04/29/08  
Print Date: 12/03/10

Page: 1



Sold-To: 10015341

S	B/E AEROSPACE
O	PO BOX 025263
L	MIAMI, FL 33102-5263
D	USA
T	
O	

S	B/E AEROSPACE INC C.M.
H	10000 N.W. 15TH TERRACE
I	MIAMI, FL 33172
P	USA
T	
O	

Salesperson (s): 110

Credit Terms: Net 30  
Net 30

Purchase Order: 0EZ593

Ship Via: FEDEX FREIGHT  
FOB: Origin - Collect

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0  
IF OVER 150# SHIP FED EX NATIONAL ACCOUNT# 018757 - DO NOT INSURE  
DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS  
DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.

\*\*\*\*\*  
BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3

AIRBUS APPROVAL# 30114

\*\*\*\*\*  
GOODS OF UNITED STATES ORIGIN

\*\*\*\*\*  
FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010

TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

**TEST REPORTS ENCLOSED**

**DO NOT DESTROY**

Ln	Item Number	Site T Location	Lot/Serial	Qty Open Qty to Ship	UM	Promised Shipped
5	CR3213-4-05 Customer Item: S2906-4-5 NAS9301BNS-4-05 NAS9301B-4-05 M7885/2-4-05 * IF APPLICABLE, PART MEETS DFARS CLAUSE 252.225-7014 ALT 1 * PREFERENCE FOR DOMESTIC SPECIALTY METALS	1600		EA	01/16/11	
			A0806 87324747	8245.0	( )	
			E0806 87421595	32720.0	( )	
			EZLINE-3 87420050	8588.0	( )	
			J0607 87420051	32817.0	( )	

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited

**CERTIFICATION**

**ATTENTION: PURCHASING DEPARTMENT**

The material and/or parts we are furnishing in this shipment (as shown above) on the subject Purchase Order conform to the order and applicable specifications. Evidence that the material and/or parts meet the specifications and results of all tests for each lot affected will be in our files and will be available for your inspection at any reasonable time.

Quality Assurance Representative

Signed

**SIM NGUYEN**

Cherry Aerospace  
1224 East Warner Avenue  
Post Office Box 2157  
Santa Ana, CA 92707-0157  
USA

Order No: SO321684  
Order Date: 04/29/08  
Print Date: 12/03/10

Page: 2

Sold-To: 10015341

Ship-To: 19000244

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B/E AEROSPACE  
PO BOX 025263  
MIAMI, FL 33102-5263  
USA

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B/E AEROSPACE INC C.M.  
10000 N.W. 15TH TERRACE  
MIAMI, FL 33172  
USA

Ln	Item Number	Site T Location Lot/Serial	Qty Open Qty to Ship	UM	Promised Shipped
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00503 87426489

33131.0

( )

**TEST REPORTS ENCLOSED  
DO NOT DESTROY**

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**CERTIFICATION**

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Quality Assurance Representative

Signed

  
SIM NGUYEN



1224 East Warner Avenue  
Santa Ana, CA 92707-0157

An ISO9001 and AS9100 registered company. OASIS #6111041606

## Final Inspection & Test Report

### CherryMax® Rivet

Part Numbers	Rev	Proc. Spec.	Rev
CR3213-4-05	AA	PS-CMR-3000	R
CR3213PR-4-05	AA	PS-CMR-3000	R

\*\* See 2nd Page for the Customer Parts

Lot I.D. No.:	<b>87420050</b>
Lot Size:	<b>35,000</b>
MFG. Date:	<b>November 10, 2010</b>

#### ASSEMBLY DATA

TYPE	ID #	CERT #	MATERIAL	FINISH	LUBE
Rivet	87413416	A65052	QQ-A-430/5056	MIL-C-5541 CLEAR CL1A	None
Stem	87389876	A65142	AMS6322 / 8740ST	QQ-P-416/T2CL2/CAD PL	None
Collar	00000000	A65691	A-286 / AMS5731	Passivate per AMS2700	None

W.O. #: 5419632

Final Lube: None

#### QUALITY CONFORMANCE/ACCEPTANCE RESULTS

MIN REQ'D	INSTALLED SHEAR		TENSION		SPINDLE RETENTION		DISASSEMBLY
	664		285		125		
	8	N/A	8	N/A	8	N/A	10
SAMPLE SIZE	C-N-M	B	C-N-M	B	C-N-M	B	5
SPECS	RESULTS	1047	365	260			40
	1071		363	272			43
	1044		361	250			37
	1054		368	292			49
	1084		378	266			80
C=CR N=NAS M=MIL B=BAC LOAD VALUES IN POUND	1049		371	276			
	1049		370	251			
	1062		372	263			

PCS.	ITEM	STATUS	PCS.	ITEM	STATUS
20	EXAMINATION	PASS	20	INSTALLATION (Min and Max Grips)	PASS

#### Comments:

Blind Fastener

Tr. Rev: -	Q Code
Rev. Date: 11/10/2010	V09
Inspector	
A Silva	ACC 343

The parts contained in this shipment have been manufactured and inspected in accordance with TSO-C148. The conditions and tests required for TSO approval of this article are minimum performance standards. Aircraft fasteners approved under this TSO are not necessarily interchangeable with other aircraft fasteners approved under this TSO. Fasteners of similar dimensional properties may have widely varying performance and metallurgical properties. Substitution of parts may only be done if acceptable to or approved by the Administrator.

This test report shall not be reproduced except in full, without the written approval of the laboratory.  
The recording of false, fictitious, or fraudulent statement or entries on the certificate may be punished as a felony under Federal law.



Chemical Processing  
Heat Treating  
ISO/IEC 17025  
Material Testing Lab

An ISO9001 and AS9100 registered company. OASIS #6111041606

## Final Inspection & Test Report CherryMax® Rivet

### Customer Parts List

Lot I.D. No.: **87420050**  
Rev: -

<u>Customer Part Number</u>	<u>Rev</u>	<u>Proc. Spec.</u>	<u>Rev</u>
NAS9301BNS-4-05	4	NAS1686	3
M7885/2-4-05	D	MIL-R-7885	D2
NAS9301B-4-05	4	NAS1686	3
S2906-4-5	B	MIL-R-7885	D2
S2906-4-5	B	NAS1686	3
S2906-4-5	B	PS-CMR-3000	R

# **CERTIFIED INSPECTION REPORT AND TEST RESULTS**

## **NICHOLS WIRE, INCORPORATED**

**1547 Helton Drive - Florence, AL 35630**

**SHIP TO:**

**SOLD TO:**

CHERRY AEROSPACE LLC

CHERRY AEROSPACE LLC

## VMI / CONSIGNMENT AGREEMENT

**VMI / CONSIGNMENT AGREEMENT**

1224 EAST WARNER AVE

1224 EAST WARNER AVE

SANTA ANA, CA 92705-5414

SANTA ANA, CA 92705-5414

Customer PO Number VP105020-1		NW WORK ORDER NO. 22254	<i>Shannon King</i>
DESCRIPTION 123 5056 H32 STEM			AUTHORIZED SIGNATURE QUALITY CONTROL MANAGER
CUSTOMER PART NO.	ALLOY 5056	TEMPER H32	We hereby certify that the material covered by this report has been inspected in accordance with, and has been found to meet, the applicable requirements described herein, including any specifications forming a part of the description, and that samples representative of the material met the composition limits and had the mechanical properties shown on this sheet.
NW PART NO. H123A7		DATE SHIPPED 6/24/2010	
WEIGHT SHIPPED 600			

		ULTIMATE		YIELD		% ELONGATION	
LOT NUMBER	# OF TESTS	STRENGTH K.S.I.		STRENGTH K.S.I.			
		Min	Max	Min	Max		
K845051	1	48.58	48.58				

**COMMENTS:**

M005.123 REV P

WATERFALLS  
QQA 430

## **MILL SOURCE KAISER**

MADE IN USA

NICHOLS WIRE INC  
K845051

A65052

JUL 10 2010

# KAISER ALUMINUM FABRICATED PRODUCTS

*Bethin  
Burt*

## CERTIFIED TEST REPORT

<http://Certs.KaiserAluminum.com>

Kaiser Aluminum & Chemical  
600 Kaiser Drive  
Heath, OH 43056-1088  
740-522-1151

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:			
13187		6Z37KH		ALY-JUMBO			
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:		ALLOY:	TEMPER:		
214519442	1	05/13/2010		K540	F		
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:		DIAM/DAF/THKNS:	WIDTH:	LENGTH:	
14957 lbs.	72 pcs.	5430		0.375 in.	0.000 in.	0.0 in.	
SHIP TO:				SOLD TO:			
NICHOLS WIRE INC 1547 HELTON AVE FLORENCE, AL 35630				NICHOLS WIRE INC 1547 HELTON AVE FLORENCE, AL 35630			

Test Code: 4000

### Actual Physical Properties

Lot No.

845051 0.0

### Chemical Composition, WT. % (Aluminum Remainder)

Lot Cast/Drop ChemID	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	
845051 5-6F2 150475	Act.	0.05	0.09	0.00	0.07	4.6	0.07	0.01	0.01
Chemical Limits	Min				0.05	4.5	0.05		
	Max	0.30	0.40	0.10	0.20	4.9	0.20	0.10	0.05
	Others	Each	0.05	Max		Total	0.15	Max	

NICHOLS WIRE INC  
K540501

A65052

*APC*  
JUL 10 2010

### CERTIFICATION

Kaiser Aluminum & Chemical Corp Inc. ("Kaiser") hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales order acknowledgement form. Any warranty is limited to that shown on Kaiser's standard general terms and conditions.

John R. Despins, Technical Manager

*John R. Despins*

Plant Serial: 8416

Kaiser Order Number: 214519442

Line Item: 1

Page 1 of 2

# KAISER ALUMINUM FABRICATED PRODUCTS

## CERTIFIED TEST REPORT <http://Certs.KaiserAluminum.com>

Kaiser Aluminum & Chemical  
600 Kaiser Drive  
Heath, OH 43056-1088  
740-522-1151

### Specifications

QQA-430 REV C

#### Miscellaneous Notes

Made in USA

Product produced from K540 meets the requirements of aluminum alloy 5056

Mercury is not a normal contaminant in aluminum alloys. Neither mercury nor any of its compounds were utilized by Kaiser Aluminum in the manufacture of this material. Actual (Act) chemical composition is from representative samples taken during the ingot casting process. Independent chemical analysis will vary from these values because of natural variation in the process and testing error. This test report shall not be reproduced, except in full, without the written approval of Kaiser Aluminum. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law. Chemical analysis performed in accordance with ASTM E 1251-07. The Newark facility is AS9100B:2004 approved. The Newark Laboratory is NADCAP approved for chemical testing (OES).

NICHOLS WIRE INC.  
K845051  
A65052

JUL 10 2010

#### CERTIFICATION

Kaiser Aluminum & Chemical Corp Inc. ("Kaiser") hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales order acknowledgement form. Any warranty is limited to that shown on Kaiser's standard general terms and conditions.

John R. Despins, Technical Manager

Plant Serial: 8416

Kaiser Order Number: 214519442

Line Item: 1

Page 2 of 2

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# WireTech, Inc.

6440 E. Canning Street  
Los Angeles, CA 90040  
Phone (323) 722-4933  
Fax (323) 721-2738

SOLD TO

CHERRY AEROSPACE LLC  
1224 E. WARNER AVENUE  
SANTA ANA, CA 92705-5414  
USA

## CERTIFICATION

WORK ORDER  
076617

HEAT NO.  
10055240  
SALES ORDER / RLS  
835328 / 1  
ISO 9001-2000 REGISTERED



MECHANICAL TESTING  
CERT # 911.01

CUSTOMER P.O. VPO92778	CUSTOMER PART M272.1040	QUANTITY 4,029 Lbs	CARRIERS 3	LADING NO 00084691	SHIPMENT DATE 07/15/2010			
<b>SPECIFICATION C208740-101040A</b> <b>A-8740, AQ, SKFG, CHQ WIRE, SEAM &amp; DECARB FREE, SAIP Zinc Phosphate, Lime &amp; Stearate Coating,</b> <b>Size:0.103/0.105 Specifications: AMS2301H, AMS6322N, MIL-S-6049A, AMEND1, ASTM-A-547, AMS-S-6049-A, M</b> <b>272.1040 REV. P.</b>								
CERTIFICATION REQUIREMENTS								
<b>Chemical Properties</b>								
C .41	Si .24	Mn .95	P .01	S .012	Cu .13	Ni .44	Cr .43	Mo .22
<b>Physical Properties</b>								
Grain Size 6 J5=54	Jominy 1 JB=46	Jominy 2 J10=40	Inclusions S2-R1-C2	Macro GOOD	Cleanliness F&S=0	Mill Source Charter		
Country of Origin USA - DFAR Compliant	AUG 21 2010						A65142	
<b>Mechanical Properties</b>								
TEST Tensile Strength	UNITS KSI					Results 133.4		
Yield Strength	KSI					113.4		
% Elongation	%					5		
% Reduction of Area	%					59.9		
Rockwell Hardness C Scale	HRC					29		
Decarb (Total)	in					0.00		
<small>Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.</small>								
<small>REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.</small>								
<small>Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, (FI 140, inclusion rating per ASTM E 45, decarburization performed as per FI 140. The reported Chemical and Physical Properties are Mill Source results. Transcribed from mill certificates. HRB(W) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.</small>								
<small>TEST RESULTS RELATE ONLY TO THE ITEMS TESTED. "LATEST REVISIONS OF ASTM"</small>								
Material is free of mercury, radium, or alpha contamination.								



**CHARTER  
STEEL**

A Division of  
Charter Manufacturing Company, Inc.

EMAIL:

1658 Cold Springs Road

Saukville, Wisconsin 53080

(262) 268-2400

1-800-437-8789

FAX (262) 268-2570

**CHARTER STEEL TEST REPORT**  
**Reverse Has Text And Codes**

Wiretech Incorporated  
6440 East Canning Street  
Los Angeles, CA-90040  
Kind Attn :Cert To Contact

Cust P.O.	6461-6
Customer Part #	8740C1A060-C-R
Charter Sales Order	70007603
Heat #	10055240
Ship Lot #	4012406
Grade	8740 R SK FG AQ 1/4
Process	HRSA
Finish Size	1/4

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

Test Results of Heat Lot# 10055240													
Lab Code: 7388	C	MN	P	S	SI	NI	CR	MO	CU	SN	V		
CHEM	.41	.95	.01	.012	.24	.44	.43	.22	.13	.007	.003		
%Wt													
AL	N	B	TI	NB									
.027	.007	.0003	.002	.001									
JOMINY(HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12	
58	58	58	58	58	54	52	49	48	43	40	39	37	
JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32		
36	25	34	33	32	31	31	31	31	30	30	30	29	



A65142

JOMINY SAMPLE TYPE ENGLISH = B JOMINY LAB = 0358-01  
AMS 2301 FREQUENCY AVERAGE = .05 AMS 2301 FREQUENCY INDIVIDUAL = .13  
AMS 2301 SEVERITY AVERAGE = .02 AMS 2301 SEVERITY INDIVIDUAL = .07  
CHEM. DEVIATION EXT.-GREEN =

**Test Results of Rolling Lot# 1005070**

REDUCTION RATIO = 616:1

Test Results of Processing Lot# 4012300,4012406				
	# of Tests	Min Value	Max Value	Mean Value
TENSILE	1	85.5	85.5	85.5
REDUCTION OF AREA	1	66	66	66
ROCKWELL B	1	87	87	87

NUM DECARB = 1 FREE FERRITE DECARB = 0 FREE FERR & PARTIAL DECARB = .003  
CP SPHERO % LAB = 0358-02 NUM SPHERO = 1 SPHERODIZATION = 82.5

Specifications:

Manufactured per Charter Steel Quality Manual Rev 8,12-05-07  
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = COP 3010 Revision = M Dated = 12-MAR-03

Additional Comments:

MEETS REQUIREMENTS OF SPECIFICATIONS AMS6322N/AMS2301J/MIL-S-6019A

AUG 21 2010

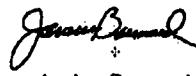


Charter Steel  
Saukville, WI, USA

Rem: Load1,Fax0,Mail0



Page 1 of 1

  
Janice Barnard  
Manager of Quality Assurance  
04/12/2010

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR/ CSSP	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSCM/ CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
•	•	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSSM, CSCM/CSCR	ASTM E415; ASTM E1019
X-ray Fluorescence Stainless and Alloy Steel	CSCM/CSCR	ASTM E572
Macroetch	CSSM, CSCM/CSCR	ASTM E381
Hardenability (Jominy)	CSSM, CSCM/CSCR	ASTM A255; SAE J406; JIS G0561
Grain Size	CSSM	ASTM E112
Tensile Test	CSSR/CSSP, CSFP, CSCM/CSCR	ASTM E8; ASTM A370
Rockwell Hardness	All labs	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSSR/CSSP, CSFP	ASTM A892
Inclusion Content (Methods A, E)	CSSR/CSSP, CSCM/CSCR	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/11.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.

AUG 21 2010



10855240



A65142

# Certificate of Analysis

Radcliff Wire Inc. 97 Ronzo Rd., P.O. Box 603, Bristol, CT 06010

Date Shipped: 10/4/2010

PO #: VP105019

Qty. Shipped: 53 LBS-4-BLACK  
MIG SPOOLS

Radcliff No.: 118534

Heat No.: Z1375MK13

Customer: CHERRY AEROSPACE  
SANTA ANA OPERATIONS  
1224 EAST WARNER AVE  
SANTA ANA, CA 92705-5414

Country of Origin: USA

Original Mill Source: USA

Size: .006 X .011 X .056 \*\*\*

Notes:

DFAR COMPLIANT  
NET WGT 53 LBS  
PART# M189.44 REV W

Material: A286 Stainless Steel

Description: SPECIAL SHPAE

NOV 08 2010



Specification: AMS 5737 REV P, AMS 5731 REV L  
CHEM ONLY

Chemical Properties

Al: 0.17%	B: 0.006%	Bi: PPM<0.1%	C: 0.04%	Co: 0.08%
Cr: 14.57%	Cu: 0.06%	Fe: 56.57%	Mn: 0.11%	Mo: 1.26%
Ni: 24.52%	P: 0.007%	Pb: PPM0.3%	S: 0.003%	Si: 0.18%
Ti: 2.14%	V: 0.3%			

Tensile: 101 KSI

Rockwell:

Certs/Material

Lisa Platek

Certification Clerk

The material as shipped is free from mercury contamination

A65691  
RADCLIFF WIRE, INC  
Z1375MK13

# A-1 Wire Tech, Inc.

2070 E. Huntington Street  
Bristol, CT 06010-3110

## Certified Material Test Report

HEAT/LOT

Load ID. 00080111

Z1375MK13

SOLD TO

Page 1

*SP*

Radcliff Wire  
97 Ronzo Road  
Bristol, CT 06011-0603  
USA

QUALITY SYSTEMS  
Certificate 3.1 as in EN 10204  
Material manufactured in accordance  
with a quality management system  
certified to ISO 9001:2008 by  
ABS-QE (Certification No. 33373)

SALES ORDER

088861 / 1

Date Printed 07/23/2010

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	PIECES	SHIPMENT DATE						
40815		145.00	1	07/23/2010						
<b>PRODUCT: Alloy: A286</b>										
Diameter: .028"										
Temper: 1/8 Hard										
Finish: 7662861-028-50-01										
<b>CERTIFICATION REQUIREMENTS</b>										
MATERIAL IS RoHS COMPLIANT										
<b>*As Shipped Properties</b>										
TEST Tensile	UNITS ksi	RESULTS 116								
<b>Chemical Analysis %</b>										
C .04	Mn .11	Si .18	P .007	S .003	Cx 14.57	Ni 24.52	Co .06	Ti 2.14	V .3	Fe 56.57
Cu .06	Mo 1.26	B .006	Al .17	Pb PPM.3	Bi PPM<.1					
<b>Specifications</b>					<b>NOV 08 2010</b>					
*Melt Source DFARS COMPLIANT / MELT SOURCE: HUNTINGTON ALLOYS / COUNTRY OF ORIGIN: USA / MFG: USA										
Specification:										
*										
<b>End of Certification</b>										

Visual and dimensional examination  
Satisfactory  
Material, when shipped is free from  
contamination by mercury, radium,  
alpha source, and low melting  
point elements.

This is to certify that all required samplings, inspections, operations and tests performed by A-1 Wire Tech, Inc. and its subcontractors are in accordance with the specification requirements. The test report represents the actual attributes of the material furnished and the values shown are correct and accurate. The material described by this certificate is in full compliance with all order and inspection requirements. We hereby certify that the above data are in accordance with the specification requirements.

*Suzanne Mullins*  
Suzanne Mullins  
Quality Assurance Manager

A65691  
Z1375MK13  
RADCLIFF WIRE INC.

HUNTINGTON ALLOYS CORPORATION  
A Special Metals Company

WESTERN U.S.

HUNTINGTON, WEST VIRGINIA 25705-1771

NOTE: THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.

A-1 WIRE TECH 840 AIRPORT DR ROCKFORD, IL 61109		<b>CERTIFIED MATERIAL TEST REPORT</b>		<b>No. 84052</b>		THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLINGS, INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND SPECIFICATION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS. REV. 6/08	
A-1 WIRE TECH INC 4550 KISHWAUKEE ST ROCKFORD IL 61109		QUANTITY 7332 LBS	INSPECTED BY HA/SNC				
		CHARGE ORDER NO. 22351-2	MARK ORDER NO. 22351-2				
		DESCRIPTION OF MATERIAL SHIPPED 3120 IN COIL	INCOLOY ALLOY A-286 VIN-ESR HR ROD - COIL PKL ANN COIL				

\*\*\*\*\*THIS REPORT RELATES ONLY TO THE ITEM(S) TESTED AND MAY NOT BE REPRODUCED EXCEPT IN FULL.\*\*\*\*\*

SPECIFICATIONS: A-1 A286 RESTRICTED FOR CUST 187, 1250, 211 REV 9-30-08  
SAE AMS 5731L CHEM ONLY\SAE AMS 5732J CHEM ONLY\  
SAE AMS 5734K CHEM ONLY\SAE AMS 5737N CHEM ONLY\  
SAE AMS 5726D CHEM ONLY\GE CSOTF3S-S4 AM 7 CLASS A CHEM ONLY\  
SPS-M-118 REV L CHEM ONLY\GE S-400 (10-31-07)\  
GE S-1000 (1-2-2008)\

UNS:366286

A65691



RADCLIFF WIRE, INC.  
Z1375MK13

HEAT TREAT & STRESS RUPTURE CAPABILITY TESTING.  
QUALITY SYSTEM CERTIFICATION: ISO 9001:2000 (ABS-QE CERT. 30125);  
EN 10 204/DIN 50049 (TYPE 3.1)

HEAT#	C	Mn	Fe	CHEMICAL ANALYSIS (WT. %)						
				Ti	Co	No	S	Si	Cu	Ni
21375MK	0.04	0.11	56.57		0.003		0.18		0.06	24.52
	2.14	0.06	1.26		0.007		0.006		0.3	<0.1
										14.57
										0.30
										0.17

TO CONVERT PPM TO WT.% MOVE DECIMAL POINT FOUR PLACES TO THE LEFT.  
MELT METHOD: VIN + ELECTROSLAG REMELTED

NOV 08 2010

HEAT/LOT	QUANTITY	HARDNESS	MECHANICAL PROPERTIES					DEG
			GRAIN SIZE	YIELD STRENGTH 2XPSI	TENSILE PSI	XELG X 100	R/A X	
Z1375MK	-CAPABILITY			1022	1595		28.1	51.5
ROOM TEMP-	-CAPABILITY			1113	1647		26.8	49.1
HARDNESS -HRC	-CAPABILITY		29.7					
HARDNESS -HRC	-CAPABILITY		27.6					
STRESS RUPTURE-CAPABILITY			1200 DEG F / 75,000 PSI STRESS / 062.0 HRS /			9.8XEL IN 4D		/16.2XRA/

HUNTINGTON ALLOYS CORPORATION  
A Special Metals Company  
HUNTINGTON, WEST VIRGINIA 25705-1771

WESTERN U.S.

A-1 WIRE TECH  
840 AIRPORT DR  
ROCKFORD, IL 61109

A-1 WIRE TECH INC  
4550 KISHWAUKEE ST  
ROCKFORD IL 61109

P

NOTE: THE RECORDING OF FALSE, FROTHOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.

CERTIFIED MATERIAL TEST REPORT		No. 64052	
HA ORDER NO/ITEM 300016997 1	DATE 06/24/09	PAGE 2	OF 3
QUANTITY 7332 LBS	INSPECTED BY HA/SMC		
CHARGE ORDER NO. 22351-2	MARK ORDER NO. 22351-2		
DESCRIPTION OF MATERIAL SHIPPED	INCOLOY ALLOY A-286 VIN-ESR HR ROD - COIL PKL ANN 3120 IN COIL COIL		

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING, INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

REV. 6/08

STRESS RUPTURE SPECIMEN DIAMETER - .250"  
HEAT TREAT #2

STRESS RUPTURE-CAPABILITY

1200 DEG F/ 70,000 PSI STRESS/ 073.1 HRS / 33.4XEL IN 4D /46.8XRA/  
STRESS WAS INCREASED PER SPECIFICATION OPTION TO INDUCE EARLY FRACTURE  
STRESS RUPTURE SPECIMEN DIAMETER - .250"  
HEAT TREAT #1

21375MK 13 9 PCS  
ROOM TEMP-HRB -AS SHIPPED \*\*\* 76.0 0380 0899 47.8 70.6

GRAIN SIZE-AS SHIPPED AGS ASTM NO. 8.  
NORMAL - TRAN

\*\* TENSILE SPECIMEN GAUGE LENGTH - 4 X DIAMETER  
\*\*\* TENSILE SPECIMEN GAUGE LENGTH - 01.500

YIELD STRENGTH WAS DETERMINED USING A STRESS STRAIN CURVE

CAPABILITY HEAT TREAT #1: HEATED AT 1650 DEG F 30 MINUTES, WATER QUENCHED.  
THEN HEATED AT 1325 DEG F 16 HOURS, AIR COOLED.

CAPABILITY HEAT TREAT #2: HEATED AT 1600 DEG F 30 MINUTES, WATER QUENCHED.  
THEN HEATED AT 1325 DEG F 16 HOURS, AIR COOLED.

NO WELDING OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL.

COUNTRY OF ORIGIN: MELTED AND MANUFACTURED IN THE USA

VISUAL AND DIMENSIONAL EXAMINATION SATISFACTORY.

MATERIAL, WHEN SHIPPED, IS FREE FROM CONTAMINATION BY MERCURY, RADIUM, ALPHA SOURCE, & LOW MELTING ELEMENTS  
"CHEMICAL ANALYSIS AS REQUIRED FOR CARBON, SULFUR, NITROGEN OR OXYGEN IS PERFORMED BY COMBUSTION TECHNIQUES.  
ALL OTHER REPORTED ELEMENTS ARE ANALYZED BY X-RAY AND/OR EMISSION SPECTROSCOPY."

NOV 08 2010

A65691  
  
RADCLIFF WIRE, INC.  
Z1375MK13

HUNTINGTON ALLOYS CORPORATION  
 A Special Metals Company  
 HUNTINGTON, WEST VIRGINIA 26705-1771

WESTERN U.S.

A-1 WIRE TECH  
 840 AIRPORT DR  
 ROCKFORD, IL 61109

A-1 WIRE TECH INC  
 4550 KISHWAUKEE ST  
 ROCKFORD IL 61109

P

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CERTIFIED MATERIAL TEST REPORT		No. 64052	
HA ORDER NO/ITEM 300018997 1	DATE 06/24/09	PAGE OF 3 3	
QUANTITY 7332 LBS	INSPECTED BY HA/SMC		
CHARGE ORDER NO. 22351-2	MARK ORDER NO. 22351-2		
DESCRIPTION OF MATERIAL SHIPPED INCOLOY ALLOY A-286 VIM-ESR HR ROD - COIL PKL ANN .3120 IN COIL COIL			

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLINGS INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

REV. 040

"QUALITY SYSTEM MEETS REQUIREMENTS OF DIRECTIVE 97/23/EC (PRESSURE EQUIPMENT DIRECTIVE),  
 ANNEX 1, CHAPTER 4.3 PER ABS GROUP LTD CERTIFICATE 41734 (EXPIRES JULY 31, 2011)."

AUTHORIZED QUALITY CERTIFICATION REPRESENTATIVES :  
 W. E. BOLEN, P.D. CUSTER, M.A. MORRISON, P. WAUGH, D.K. MILLER

CERTIFIED TESTING LABORATORY DATA SOURCE IATI

AEBG VENDOR NO. 47150

H.R.B. CASE RECORD NO.: NONE

AUTHORIZED VENDOR SIGNATURE

DATE: 06/24/09

*W. Bolen*

 NOV 08 2010

A65691



RADCLIFF WIRE, INC. -  
 Z137SMK13



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
[www.beconsumables.com](http://www.beconsumables.com)

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
-------	----------	-----	-------------	-----------	------------	--------------	-------	----------	----------

8	200	EA	CCR264SS-3-03		87427459	CHERRY AEROSPACE SAN 11815			
---	-----	----	---------------	--	----------	----------------------------	--	--	--

  
\_\_\_\_\_  
Jason Lewis  
Vice President of Quality

04/09/14



**CHERRY®**  
**AEROSPACE**  
SPS Fastener Division, a PCC Company

Cherry Aerospace  
1224 East Warner Avenue  
Post Office Box 2157  
Santa Ana, CA 92707-0157  
USA

# PACKING LIST

Order No: SO321649  
Order Date: 04/29/08  
Print Date: 12/20/10

Page: 1

Sold-To: 10015341

S	B/E AEROSPACE
O	PO BOX 025263
L	MIAMI, FL 33102-5263
D	USA
T	
O	

Ship-To: 19000244

S	B/E AEROSPACE INC C.M.
H	10000 N.W. 15TH TERRACE
I	MIAMI, FL 33172
P	USA
T	
O	

Salesperson (s): 110

Credit Terms: Net 30  
Net 30

Purchase Order: OFA351

Ship Via: FEDEX NATIONAL  
FOB: Origin - Collect

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0  
IF OVER 150# SHIP FED EX NATIONAL ACCOUNT# 018757 - DO NOT INSURE  
DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS  
DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE UNLESS SPECIFIED.

\*\*\*\*\*  
BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3  
AIRBUS APPROVAL# 30114  
\*\*\*\*\*

GOODS OF UNITED STATES ORIGIN

\*\*\*\*\*  
FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010  
TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

Ln	Item Number	Site T Location/Lot/Serial	Qty Open Qty to Ship	UM	Promised Shipped
14	CCR264SS-3-03 Customer Item: BACR15DR3-3 S1972-3 NSA5448-24-03 * IF APPLICABLE, PART MEETS DFARS CLAUSE 252.225-7014 ALT I * PREFERENCE FOR DOMESTIC SPECIALTY METALS	1600 EZLINE-2 87427453 EZLINE-2 87427458 EZLINE-2 87427459 EZLINE-2 87427460	98200.0 500.0 98400.0 99700.0	EA	02/01/11 ( ) ( ) ( ) ( )

**TEST REPORTS ENCLOSED**

**DO NOT DESTROY**

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited

Packing List

179



**CHERRY®**  
**AEROSPACE**  
SPS Fastener Division, a PCC Company

Cherry Aerospace  
1224 East Warner Avenue  
Post Office Box 2157  
Santa Ana, CA 92707-0157  
USA



# PACKING LIST

Order No: SO321649  
Order Date: 04/29/08  
Print Date: 12/20/10

Page: 1

Sold-To: 10015341

S O L D  T O	B/E AEROSPACE PO BOX 025263 MIAMI, FL 33102-5263 USA
--------------------------------	---

Ship-To: 19000244

S H I P  T O	B/E AEROSPACE INC C.M. 10000 N.W. 15TH TERRACE MIAMI, FL 33172 USA
--------------------------------	---

Salesperson (s):110

Credit Terms: Net 30  
Net 30

Purchase Order: OFA351

Ship Via: FEDEX NATIONAL  
FOB: Origin - Collect

### Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0  
IF OVER 150# SHIP FED EX NATIONAL ACCOUNT# 018757 - DO NOT INSURE  
DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS  
DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.

\*\*\*\*\*  
BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3  
AIRBUS APPROVAL# 30114  
\*\*\*\*\*

### GOODS OF UNITED STATES ORIGIN

\*\*\*\*\*  
FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010  
TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

Ln	Item Number	Site T LocationLot/Serial	Qty Open Qty to Ship	UM	Promised Shipped
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**TEST REPORTS ENCLOSED  
DO NOT DESTROY**

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### CERTIFICATION

The material and/or parts we are furnishing in this shipment (as shown above) on the subject Purchase Order conform to the order and applicable specifications. Evidence that the material and/or parts meet the specifications and results of all tests for each lot affected will be in our files and will be available for your inspection at any reasonable time.

### ATTENTION: PURCHASING DEPARTMENT

### Quality Assurance Representative

Signed

SIM NGUYEN



Chemical Processing  
Heat Treating  
ISO/IEC 17025  
Material Testing Lab

# Final Inspection & Test Report

## Cherry® Rivet

An ISO9001 and AS9100 registered company. OASIS #6111041606

Part Numbers	Rev	Proc. Spec.	Rev	Lot I.D. No.:	87427459
CCR264SS-3-03	AD	PS-NPR-200	M	Lot Size:	100,000
				MFG. Date:	December 17, 2010

### ASSEMBLY DATA

TYPE	ID #	CERT #	MATERIAL	FINISH	LUBE
Rivet	87427459	A66041	C-1018/ ASTM-A 510/ ANNEALED	CAD PL / QQ-P-416, T2, C2	Rust Inhibit
Stem	87430331	A65859	Carbon Steel per ASTM A-510	None	Rust Inhibit

W.O. #: 5421775

Final Lube: None

### QUALITY CONFORMANCE/ACCEPTANCE RESULTS

SAMPLE SIZE	INSTALLED SHEAR				TENSION				AIR EXP.			
	105				155				0.109			
	26				26				32			
SPECS	RESULTS	164	181	177	172	185	182	185	186	0.118	0.117	0.117
	175	177	170	177	190	189	184	183	183	0.117	0.118	0.118
	185	177	175		185	185	187			0.118	0.119	0.119
	174	177	179		186	181	188			0.118	0.118	0.118
	177	178	175		189	188	183			0.117	0.118	0.117
	179	176	157		185	186	185			0.119	0.117	0.117
LOAD VALUES IN POUNDS	173	178	179		191	185	181			0.118	0.118	0.117
	177	176	177		190	185	182			0.117	0.115	0.118

PCS.	ITEM	STATUS	PCS.	ITEM	STATUS
125	EXAMINATION	PASS	32	INSTALLATION (Min and Max Grips)	PASS

### Comments:

Blind Fastener

The parts contained in this shipment have been manufactured and inspected in accordance with TSO-C148. The conditions and tests required for TSO approval of this article are minimum performance standards. Aircraft fasteners approved under this TSO are not necessarily interchangeable with other aircraft fasteners approved under this TSO. Fasteners of similar dimensional properties may have widely varying performance and metallurgical properties. Substitution of parts may only be done if acceptable to or approved by the Administrator.

Tr. Rev.:  
Rev. Date: 12/17/2010

Inspector  
V Iriarte



Insp. Control #: 282607

This test report shall not be reproduced except in full, without the written approval of the laboratory.  
The recording of false, fictitious, or fraudulent statement or entries on the certificate may be punished as a felony under Federal law.



Chemical Processing  
Heat Treating  
ISO/IEC 17025  
Material Testing Lab

1224 East Warner Avenue  
Santa Ana, CA 92707-0157

An ISO9001 and AS9100 registered company. OASIS #6111041606

## Final Inspection & Test Report Cherry® Rivet

Lot I.D. No.: **87427459**

Rev: **-**

### Customer Parts List

<u>Customer Part Number</u>	<u>Rev</u>	<u>Proc. Spec.</u>	<u>Rev</u>
BACR15DR3-3	AH		
NSA5448-24-03	B	PS-NPR-200	M
S1972-3	D	PS-NPR-200	M



# WireTech, Inc.

6440 E. Canning Street  
Los Angeles, CA 90040  
Phone (323) 722-4933  
Fax (323) 721-2738

SOLD TO

CHERRY AEROSPACE LLC  
1224 E. WARNER AVENUE  
SANTA ANA, CA 92705-5414  
USA

## CERTIFICATION

WORK ORDER  
079754

HEAT NO.  
371500  
SALES ORDER / RLS  
837325 / 1  
ISO 9001-2000 REGISTERED



MECHANICAL TESTING  
CERT # 911.01

CUSTOMER P.O. PO120169 ✓	CUSTOMER PART m114.0900 ✓	QUANTITY 716 Lbs	CARRIERS 1	LADING NO 00087116	SHIPMENT DATE 12/02/2010					
SPECIFICATION C201018-300900A C-1018, AKFG, CHQ WIRE, SAIP Zinc Phosphate, Lime & Stearate Coating, Size:0.0895/0.0905 Specifications: M114-090, REV M, ASTM-A510,ASTM-A545										
CERTIFICATION REQUIREMENTS										
Chemical Properties										
C .18	Si .090	Mn .82	P .014	S .011	Cu .08	Ni .06	Cr .08	Mo .02	Al .025	N .0060
Physical Properties										
Mill Source Charter										
Mechanical Properties										
TEST Tensile Strength	UNITS KSI					Results 62.1				
DEC 07 2010						DEC 06 2010				
324 A2LA						A2LA				
A66041						A66041				
<p>Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.</p> <p>REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.</p> <p>Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, IFI 140, inclusion rating per ASTM E 45, decarburization performed as per IFI 140. The reported Chemical and Physical Properties are Mill Source results. Transcribed from mill certificates. HRB(W) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. *Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.</p> <p>TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.</p> <p>*LATEST REVISIONS OF ASTM*</p>										
Material is free of mercury, radium, or alpha contamination.										

FAX



**CHARTER  
STEEL**

A Division of  
Charter Manufacturing Company, Inc.

**CHARTER STEEL TEST REPORT**  
**Reverse Hat Test And Codes**

1258 Cedar Springs Road  
Wausau, Wisconsin 54401

(715) 846-2400

(800) 437-6729

FAX (715) 846-2520

WestTech Incorporated  
6440 East Canning Street  
Los Angeles, CA 90040-  
Attn:

Charl. P.O.	5827
Charl. Part #	1010-A2058-C
Charl. Spec. No.	1010-A2058
Test No.	371500
Spec. No.	371500
Material	1010-A2058-C
Code	NR
Print Size	7/32

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

Test Results of Part 1010-A2058

LAB CODE: 1010-A

Chemical	C	Mn	P	S	Si	N	Cr	Ni	Co	Al	V
WT%	0.18	0.82	0.014	0.011	0.080	0.06	0.08	0.02	0.08	0.007	0.001
			N	N	N	N					
			0.028	0.0080	0.0002	0.001					

QC Deviation Ext. Green = NR

Test	# of Tests	Min. Value	Max. Value	Mean Value
Tensor (KSI)	1	73.0	73.0	73.0
Reduction of Area (%)	1	63	63	63

Tensor Lab. = Q999-02  
RA Lab. = Q999-02

Min Deviation = 1.0% Min Deviation = 0.002% Avg Deviation = 0.002%  
QC Deviation Ext. Green = NR

Test Results of Reverse Hat Test

QC Deviation Ext. Processed = NR

Specifications: Meets customer specifications with any applicable Charter Steel exceptions for the following customer document(s):  
Customer Document = COP 3000 Revision = 1 Date = 12-4-08-2008

DEC 07 2010



371500



A66041

Charter Steel  
Wausau, WI 54401

Fax number: (715) 846-6380 Attn: Lead 1 Mail/Fax



Page 1 of 1

*Tim Leahy*  
Manager of Quality Assurance  
08/16/2008

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory	Address
0358-01	7388	CSMD	Charter Steel Melting Division 1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSRD/CDPD	Charter Steel Rolling/Processing Division 1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	P4	Charter Steel Ohio Processing Division 6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSC	Charter Steel Cleveland 4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
358.05	128003	CSDT	Charter Steel Detroit 23860 Sherwood Ave. Center Line, MI 48015
		--	Subcontracted test performed by laboratory not in Charter Steel system

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD, CSC	ASTM E415; ASTM E1019
X-ray Fluorescence Stainless and Alloy Steel	CSC	ASTM E572
Macroetch	CSMD, CSC	ASTM E381
Hardenability (Jominy)	CSMD, CSC	ASTM A255; SAE J406; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSRD/CSPD, P4, CSC, CSDT	ASTM E8; ASTM A370
Rockwell Hardness	CSMD, CSRD/CSPD, P4, CSC, CSDT	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSRD/CSPD, P4	ASTM A892
Inclusion Content (Methods A, E)	CSRD/CSPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/09.

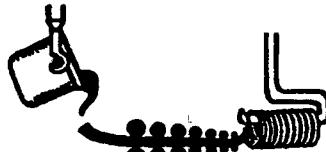
All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



DEC 07 2010





## MILL TEST CERTIFICATE

**IVACO ROLLING MILLS LP**

A Heico Company

10624 0058 **WIRETECH, INC.**  
 6440 E. CANNING ST. SPUR 6604  
 COMMERCE, CA  
 90040

This report contains analysis data that were produced under subcontract by laboratory ArcelorMittal Canada, Standards council of Canada certificate number 270.

NVLAP only covers the chemistry presented within this certificate. All other data is not covered by the NVLAP accreditation.

P.O.BOX 322, L'ORIGNAL, ONTARIO, CANADA K0B 1K0  
 TEL: (613) 675-4671 FAX: (613) 675-6866



Lab Code 200143-0

ATTENTION : A Stephan/M Martinez VIA : EMAIL

P.O. Number	Order Number	Heat Number	Customer Spec	Spec Rev. No.	Customer Part No.	Date Rolled	10-Sep-2010	Date Chemical Analysis Performed	21-May-2010	Grade	Diameter
006527	10127492	C80712	1018AKFG	REV S 21/21/2009	1018-03C055-C	Billet Order	301027	1018AK	CHQ	5.50 mm	
Heat Analysis											
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	N
Spec. Min*	.16	.65								.035	
Actual	.18	.74	.005	.006	.04	.03	.02	.020	.005	.046	.0030
Spec. Max*	.19	.85	.020	.020	.10	.08	.10	.100	.040	.020	.0001
										.002	.000

This is to certify that heat number C80712 is in conformance with the required specifications.

**Results of Physical Testing**

	UTS (KSI)	ROA (%)	DIA. (in)
Averages	72.30	68.55	.2169

Heat analysis obtained by test methods ASTM E415 and ASTM E1019.  
 \*Minimum and maximum refer to the required customer specification.

This is to certify that the material is in conformance with the required specifications.  
 Radioactive emissions are at background levels.

This steel was produced using a fine grain steelmaking practice (6-11).

Aluminum to Nitrogen ratio = 15.333



NOV 22 2010

C80712



A65859

APPROVED BY :

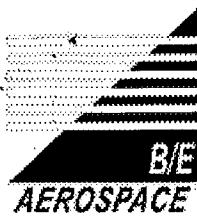
Supervisor, Chemistry Laboratory and Billet Inspection

This Certificate shall not be reproduced except in full, without the written approval of Heico Rolling Mills LP, a Heico Company. This certificate is not to be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

ISSUED BY QUALITY ASSURANCE :

Date: 13 Sep 2010

Specification Clerk



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
[www.beconsumables.com](http://www.beconsumables.com)

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO23714**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
12	1500	EA	MS21043-4		UK030	ALCOA FASTENING/REPU	52828		

  
Jason Lewis  
Vice President of Quality

04/09/14

**GREER STOP NUT**  
**SPS**  
 481 McNALLY DRIVE • NASHVILLE, TN 37211  
 TECHNOLOGIES

**PACKING LIST**

**PREVENT FRAUD**

Any alteration or misuse of this certificate, or any unauthorized rework or modification of the identified products voids all manufacturer's warranties, and may lead to civil damages and/or criminal penalties.

CUSTOMER NBR 01-0001-00427568-0001

B/E AEROSPACE CONSUMABLES  
 MANAGEMENT  
 8720 E 34 ST N  
 WICHITA, KS 67226

THE PRODUCTS THAT ARE COVERED BY THIS AGREEMENT, ARE OF U.S. ORIGIN OR OTHERWISE SUBJECT TO U.S. EXPORT AND OTHER FOREIGN TRADE CONTROLS. THE EXPORT, DEFERRED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS TO OTHER COUNTRIES OR PARTIES MAY REQUIRE THE PRIOR APPROVAL OF THE U.S. GOVERNMENT. DIVERSION OF THESE PRODUCTS FROM THE AUTHORIZED DESTINATION CONTRARY TO U.S. AND INTERNATIONAL LAW IS PROHIBITED. THE PURCHASER AGREES TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS OF THE UNITED STATES, OTHER RELEVANT JURISDICTIONS, AND PERTINENT INTERNATIONAL ORGANIZATIONS PERTAINING TO THE EXPORT, DEFERRED EXPORT, RE-EXPORT, OR RELEASE OF THESE PRODUCTS. ANY VIOLATIONS OF THIS CLAUSE, AS DETERMINED SOLELY BY SPS TECHNOLOGIES AND OR GREER STOP NUT, SHALL BE DEEMED A MATERIAL BREACH OF THIS AGREEMENT.

CLAIMS FOR GOODS IS TO BE MADE ON RECEIPT OF GOODS.  
 NO MATERIAL ACCEPTED FOR RETURN WITHOUT OUR PERMISSION.

PUBLISHED 07/10/12

ORDER NBR 070473-004

ORDER DATE 03/12/12

P/S N 070473004

PAGE 1

B/E AEROSPACE CONSUMABLES  
 MANAGEMENT (MIAMI)  
 P O BOX 025263  
 MIAMI, FL 33102-5263

7/10/12

CUSTOMER P.O.		TERMS	SHIP FROM	SCHEDULE DATE		PO. # OFZR91				
OFZR91		S 1/2% 10.NET 30	AI	05/21/12						
CARRIER CD/DESC		CARRIER NBR	FREIGHT	REG	TERR	CREP	REQ. DATE			
LNE	PRODUCT CODE	DESCRIPTION	COLL	COLLECT	2751	52	0103	03/12/12		
004	0506980	MS21044N9 UNDER 150# SHIP FEDEX GROUND ACCT #0331-0149-0 MARK COLLECT OVER 150 LBS SHIP FED EX NATIONAL ETL ACCT #081757 SHIPPING BOX WEIGHT LIMIT 40 LBS. CHEMICAL AND PHYSICAL CERTS- DUAL CERT TO BOTH MS21044N9 AND F52N7691-0918 SHIP VARIANCE +/- 10% TOTAL QUANTITY- 100000 DO NOT MARK/ENGRAVE PARTS WITH X PARTS TO BE HARDENED TO NO LESS THAN 26 HRC NUT CLOSER TO HAVE STAKE MARKS PER DISCUSSION HEIGHT DIMENSION .638-.641 TO ACHIEVE WEIGHT REQUIREMENT PROCUREMENT SPEC NASM25027 NUT TO BE MADE FROM 1137 MATERIAL AS PREVIOUSLY SUPPLIED		F52N7691-0918	47728	C	26,603			

LOT NO.	0506980-20					All parts are shipped free of mercury contamination. All damages exceeding price are excluded.  GREEN NYLON INSERT is a registered trademark of GREER STOP NUT
QUANTITY	26,603					
AREA	0A3					

FREIGHT RECORD	WEIGHT	BOXES	PREPD	COLL	CARRIER	BILL OF LADING	FREIGHT CHARGE
	1,1625	42		X	Fed ex freight		



**GREER STOP NUT**

Greer Stop Nut  
481 McNally Drive  
Nashville, TN 37211

Phone: 615-832-8375  
Fax: 615-331-5070  
E-mail: greer@spstech.com

### **CERTIFICATE OF CONFORMANCE**

Date of Certification: July 10, 2012

Sold To: **B/E AEROSPACE CONSUMABLES**  
8720 E 34<sup>TH</sup> ST N MANAGEMENT  
WICHITA, KS  
67226

Purchase Order No: OFZB91

Customer Part No: MS21044N9 Rev. H Item No: 004

Greer Part No: F52N7691-0918 Nomenclature: Nut, Hexagon, Self-Locking

Lot No/Serial No: 0506880-210 Qty. Manufactured: 27,224 Qty. Shipped: 26,603

Manufacturing Date: 6-30-12

Material: 1137 Material Specification: AMS 5024 H Material Supplier: Neilsen Steel Company

Mill Heat No: 293796 Greer Steel Date: CJ527J

Material Marking: N/A

Nylon Conforms to ASTM D4065-94B, 93A, 93, 01A Group 1 Class 1

Procurement Specification: NASM25027 NEW ✓ Thread Spec: AS-8879 Rev D

Surface Finish: Cadmium & Yellow Chromate ✓ Surface Finish Specification: AMS-QQ-P-416 Type II Class 2 Rev. C

Axial Tensile Strength: 26,810 lbs. Testing Exceeded: 26,810 lbs. Specification: NASM25027 NEW

Sample Size: 10

Locking Torque Specification: NASM25027 NEW Sample Size: 10

1<sup>st</sup> Cycle Max. Locking Requirement: 200.0 in. lbs.

15<sup>th</sup> Cycle Min. Breakaway Requirement: 24.0 in. lbs.

Tested Range of Samples:

1<sup>st</sup> Cycle Max. Locking: 50-70 in. lbs.

1<sup>st</sup> Cycle Min. Bkwy: 50-70 in. lbs.

7<sup>th</sup> Cycle Max. Locking: 45-60 in. lbs.

7<sup>th</sup> Cycle Min. Bkwy: 45-60 in. lbs.

15<sup>th</sup> Cycle Max. Locking: 40-60 in. lbs.

15<sup>th</sup> Cycle Min. Bkwy: 40-60 in. lbs.

Non-Destructive Testing: Magnetic Particle Inspection Spec: ASTM E1444-11

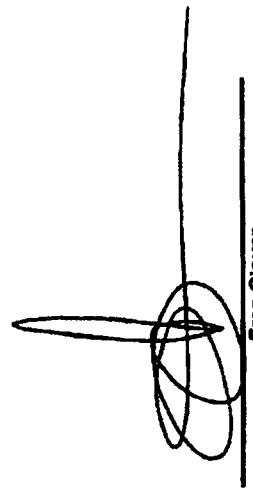
Acceptance Criteria: NASM25027 NEW Sample Size: 20

Magnetic Particle Inspection in accordance with MT2000 Rev. 14 DTD 5-31-12 as modified by MT69811 Rev. 5 DTD 5-5-10

Hardness Requirement:	<u>HRC 28-32</u>	Specification:	<u>GREER SPEC</u>	Hardness:	<u>HRC 28.0-30.0</u>	Sample Size:	<u>10</u>
Conforms Dimensionally:	<u>F22N7 691-0918 Rev. 10, MS21044N9 Rev. H</u>			Sample Size:	<u>20</u>		

The products identified on this certificate have been manufactured, tested and inspected in accordance with, and unless noted above, conforms in all respects to the applicable drawings, specifications and/or standards. Complete reports of physical and chemical tests are on file for on-site examination. If no specific customer quality level is required, goods conform to seller's quality level. Reproduction except in full is strictly prohibited without written approval of Gear Stop Nut. All damages exceeding price are excluded. Merely fine clauses: We certify that no possibility exists for mercury contamination to occur during manufacture, assembly or testing of parts on this contract. This document relates only to the items tested. Parts were manufactured in the United States of America. Sample plans are carried out to current standard/specification revision.

G and Green Nylon are Trademarks of Gear Stop Nut, Inc.



Fran Glover  
Quality Assurance Coordinator



Nelsen Steel Company  
9400 W. Belmont Ave.  
Franklin Park, IL 60131-2898  
Tel: (847) 671-9700 Fax: (847) 671-6833

SOLD TO  
Greer Stop Nut Inc.  
481Mc Nally Drive  
Nashville, TN 37211  
USA

RECEIVED  
RCS-117-  
15.5/29/12

## PRODUCT CERTIFICATION

HEAT-LOT NUMBER 293796  
WORK ORDER 074783  
SUPPLIER Mittal Indiana Bar P  
SALES ORDER / RLS 091652 / 2  
MELT SOURCE/NAFTA  
Mittal IN/Yes  
COUNTRY OF ORIGIN U.S.A.  
CAST METHOD Strand (Billet)

CUSTOMER P.O. 0011168299	CUSTOMER PART 0r23087	QUANTITY 11,810 LBS	COILS 3	LADING NO 00047750	SHIPMENT DATE 05/24/2012
<b>SPECIFICATION C08710H1137</b>					
<b>.8710, Shape = Cold Drawn Hexagon, Grade = 1137 Mod, Length = 12' R, Grain Prac = Coarse Grain Practice, Silicon = .10 MAX, Quality Level = STD, Testing = Mag Tested, Mechanical Tests, Bundle max = 4000 lbs. Min. Red. Ratio 43:1</b>					
<b>CERTIFICATION REQUIREMENTS</b> <b>AMS 5024H Chem and Mech. Only</b>					
<b>Chemical</b>					
0.39	1.39	0.02	0.11	0.219	0.24
A1 0.005	CB 0.001	N 0.01	Sn 0.01	V 0.005	Ti 0.001
<b>Mechanical</b>					
<b>TEST</b> Tensile	<b>UNITS</b> PSI		<b>HIGH</b> 125000	<b>LOW</b> 125000	<b>AVERAGE</b> 125000
Yield Strength	PSI		111000	111000	111000
Elongation in 2"	%		10	10	10
Reduction of Area	%		37	37	37
Brinell Hardness	Brin Hds		231	231	231
<p>We certify that the above material during its processing or while in our possession was not exposed to mercury or any other metal alloy that is liquid at ambient temperature, that no welding or weld repair was performed on said material, that no Class I or Class II ozone depleting chemicals (ODC's) were used in the manufacture of said material or in any of its components or packaging, and that the finished product described herein was manufactured by Nelsen Steel and Wire L.P. and/or its agents in the United States of America. We further certify that all material cold drawn by Nelsen Steel and Wire L.P. meets or exceeds the requirements of ASTM A108-07 (Level 1) and/or SAE J403 for carbon steels and/or SAE J404 for alloy steels and their referenced documents (including ASTM A29-11a and ASTM A576-90b,2006) as a minimum. Also, all chemical and mechanical testing is performed by laboratories that have received or have applied for certification to ISO/IEC 17025-1999. Nelsen Steel's Quality Management System is registered to ISO 9001: 2008 via third party assessment. Manufactured in the United States of America.</p>					
End of Certification					

We certify that the above metallurgical report of chemical analysis and/or mechanical properties is a true and correct statement of the information relating to the product(s) listed above and conforms to the applicable specifications as indicated on your order. WE FURTHER CERTIFY that the material described herein was monitored and controlled during manufacture in accordance with the "Nelsen Steel Company Quality Assurance Manual" in its most recent revision prior to our issuing date shown.

Certification given and subscribed

by:

Kenneth A. Koepli, Quality Manager

## TEST REPORT

TEST REPORT		54460
		273704
		05/08/2012
<p>ArcelorMittal USA, Inc.      INDIANA HARBOUR LONG CARBON      3300 DICKEY ROAD.      EAST CHICAGO, INDIANA 46312-1644</p>		

TEST REPORT TO

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FRANKLIN PARK IL 60131 FRANKLIN PARK IL, 60131  
7400 BELMONT AVE  
CMS (REG TM) SQ HOT ROLLED HEGACONS IN COILS REINFORCED SAW 11137 / 11137-51 06/

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MEAT: 293796 C : 0.39 Mn: 1.39 P : .020 S : .11  
Cu: .24 Ni: 0.08 Mo: .02 Cr: 0.13  
Al: .005

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## THE ELECTRIC FURNACE STRUTTMAKER / CONTINUOUS CAST INTO BILLETS.

Ulmanatherm stated, the steel described herein was manufactured, inspected and tested in accordance with the requirements of the contract or purchase order and conform to stated requirements. This steel is compliant with European Union Directive 2002/92/EC. No mercury, lead or other toxic substances are used in the production of this steel. This steel has not been treated nor heat treated. Heat treatments are reported in weight, percentage, heat, methods and test results marked with an asterisk (\*) were repeat and by a Arrolthorpe Ltd Inc., Inverness Harbor Long Carbon steel product label prints. The "v" sign at the beginning of any of the indications from a previously issued report for the same material, all tests were performed by Arrolthorpe Ltd Inc., Inverness Harbor Long Carbon. In accordance with the following, unless otherwise specified, Charpy V-notch test at 23°C, Hardness per ASTM A325 and SAE J417; Charpy impact per ASTM D3571 & Elongation per ASTM A707, as a 23°C, Hardness per ASTM E110, E18 & SAE J417; Brinell Hardness per ASTM E100. Tested per most recent standard, unless otherwise stated. Measurement uncertainty was determined and is available upon request. We hereby certify that the heat and/or heat results in this report are applicable only to the heat(s) described herein, and are correct as contained in the records of the Company.